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A Dissertation

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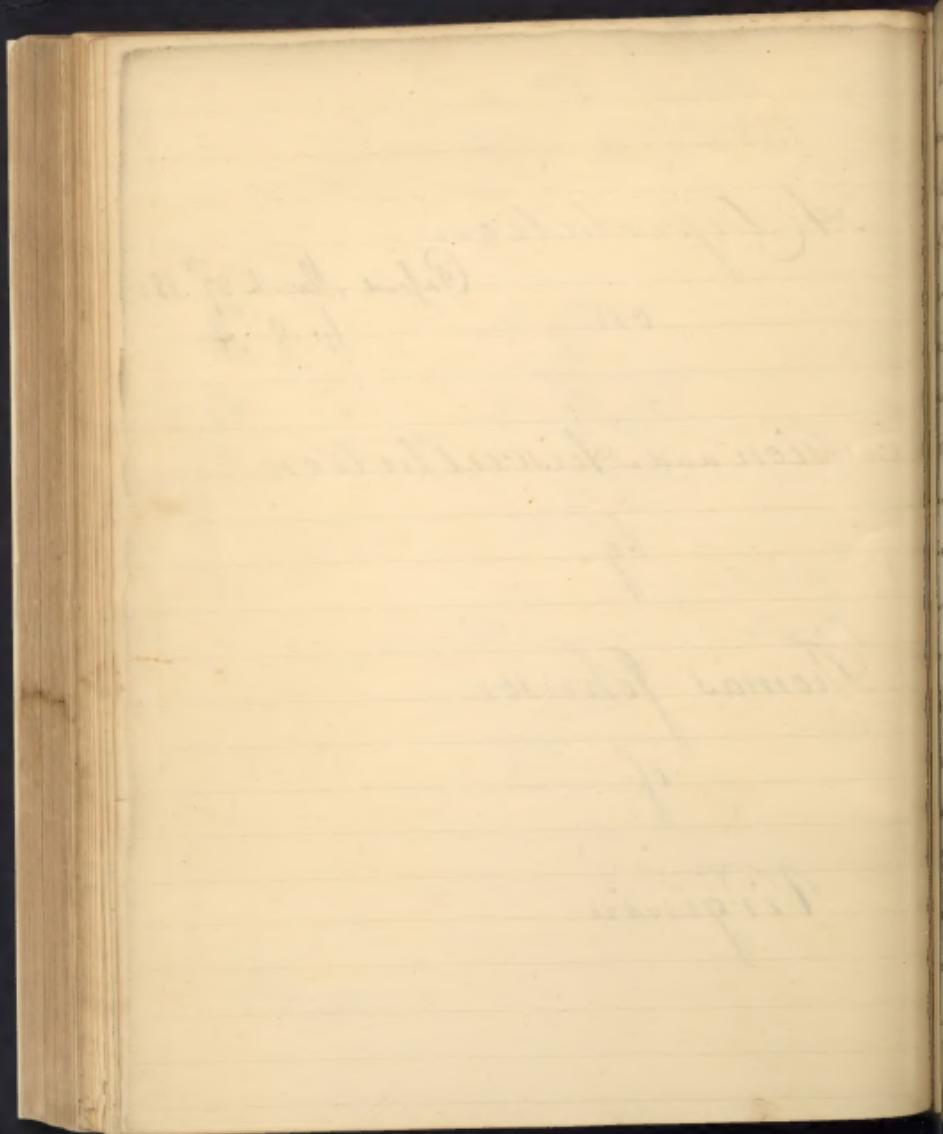
Percussion and Auscultation

by

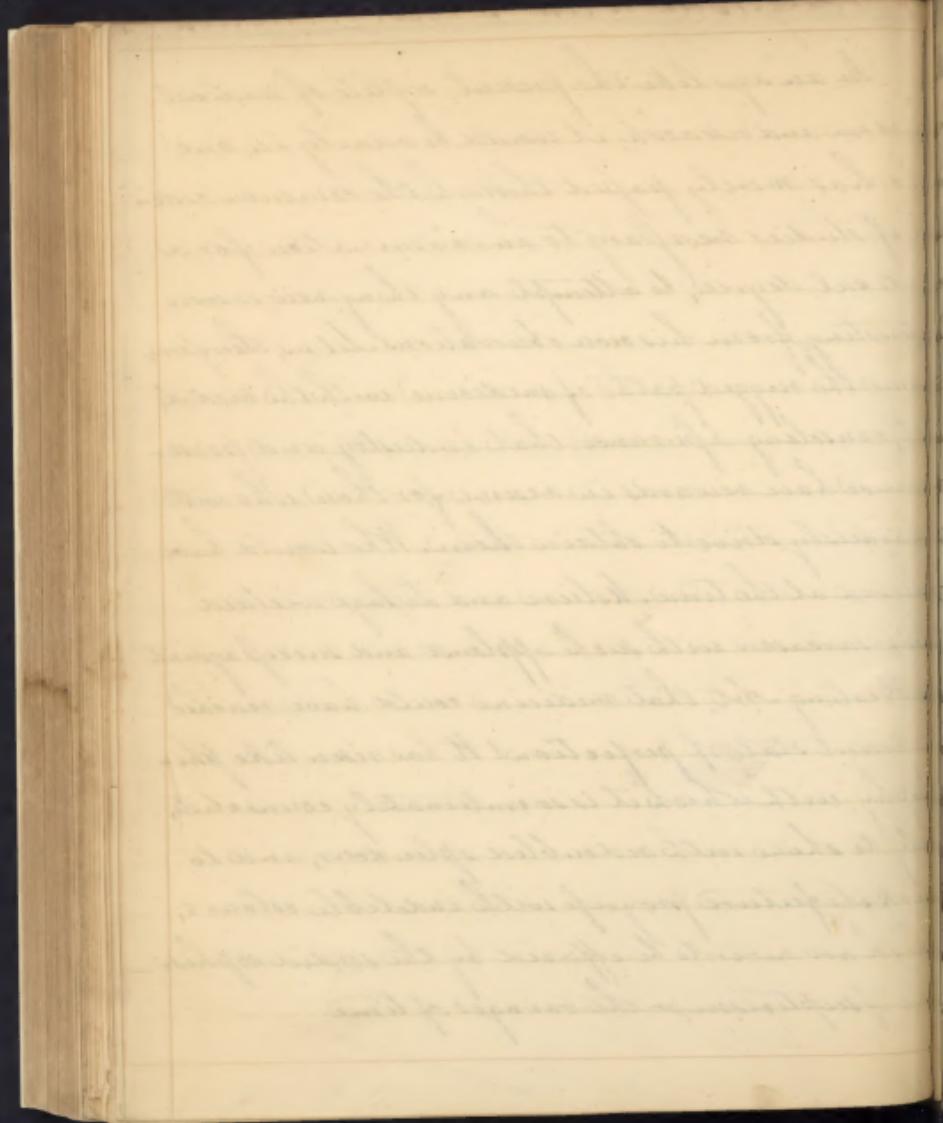
Thomas Johnson

of

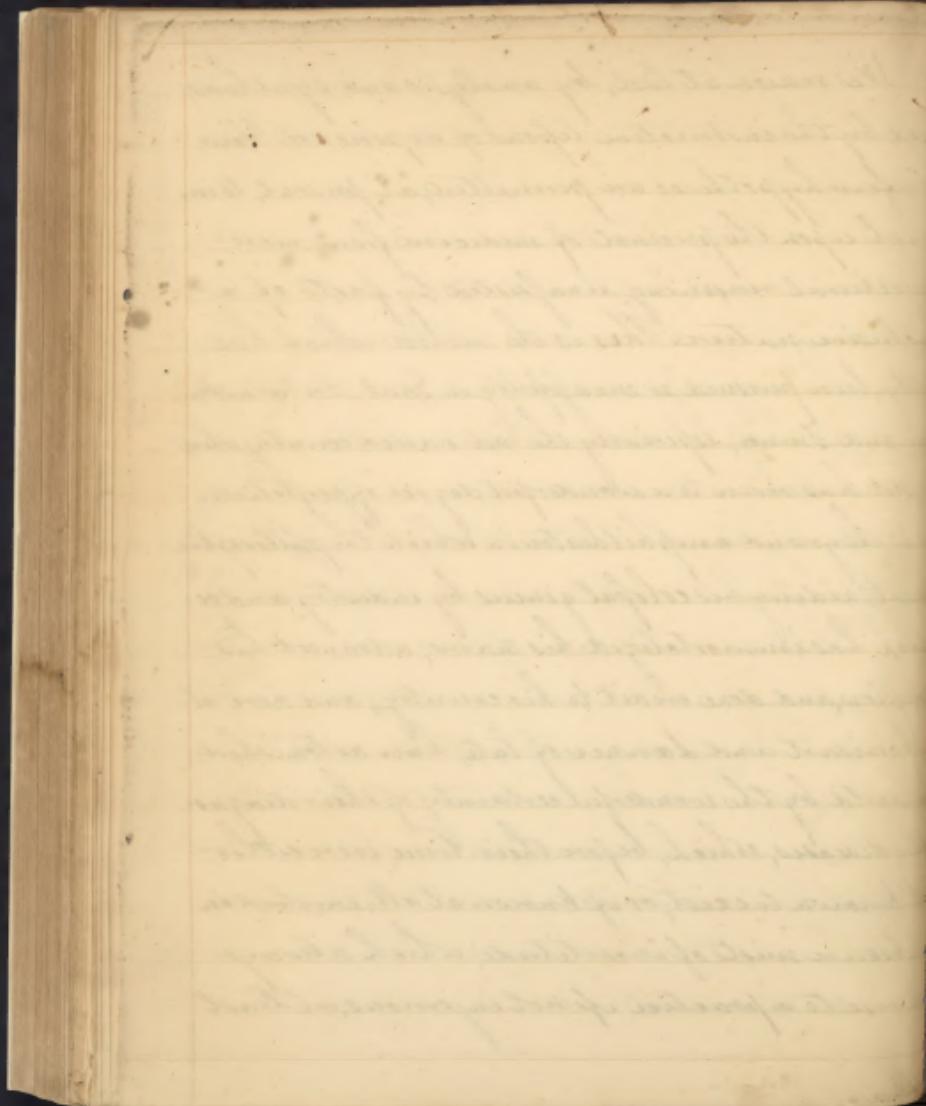
Virginia.



In an age like the present, replete of medical wisdom and research, it would be vanity in one who has merely passed through the common ordinary of studies necessary to an examination for a medical degree, to attempt any thing new, or even interesting, from his own observations. Let us, therefore, pursue the rugged paths of medicine with the modest, but, consoling assurance, that industry and perseverance have rewards in reserve for those who will assiduously strive to obtain them. Who would have believed at the time Moliere and Segage wielded their sarcasm with such applause and success against the Healing Art, that medicine could have reached its present state of perfection? It has risen like philosophy, with which it is so intimately connected, only to shine with redoubled splendour, and to mark its future progress with indelible colours, which are never to be effaced by the sorrid sophistries of scepticism, or the ravages of time.

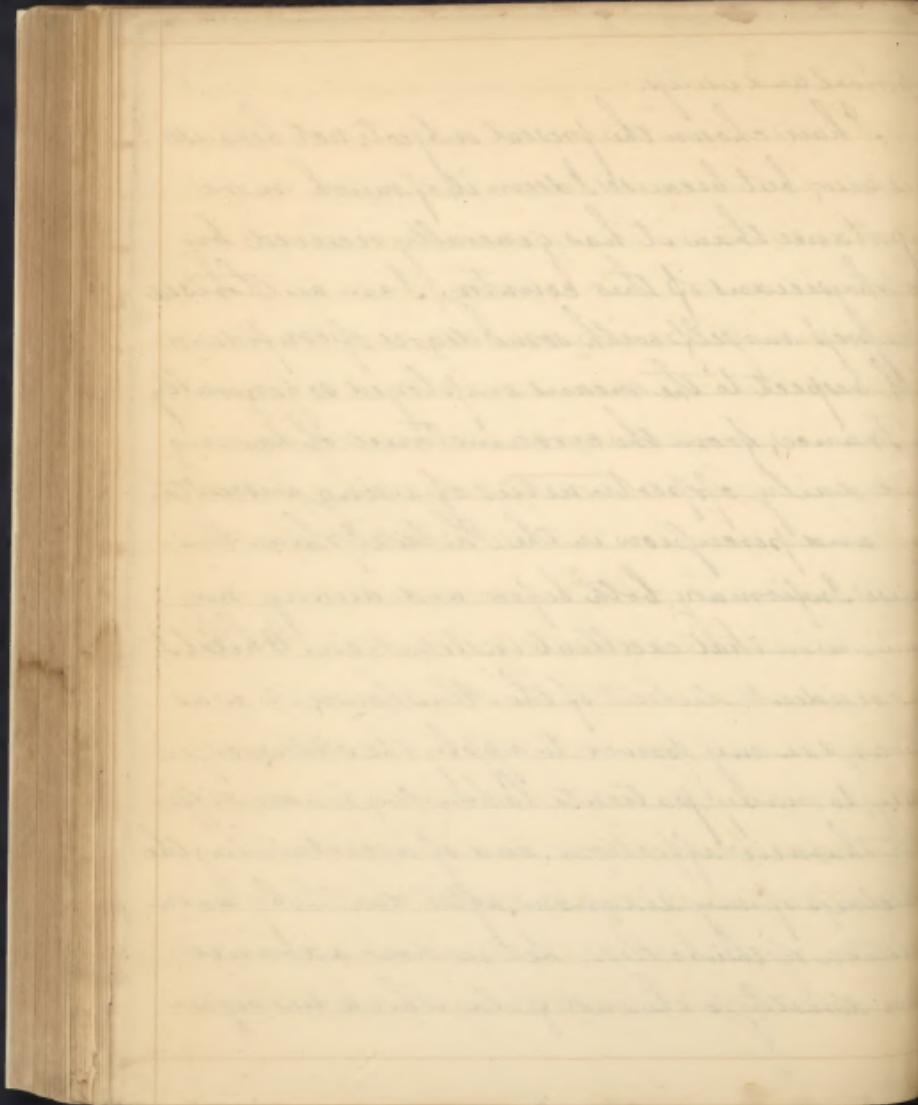


We reason at last, by analysis and synthesis,  
aided by the instructive lessons of experience. Few,  
very few hypotheses are permitted, at present, to approach  
upon the precincts of medicine from mere  
conjectural reasoning, unsupported by facts of a  
conclusive nature. This is the method which has  
lately been pursued so successfully in Great Britain, Amer-  
ica and France, especially the last named country, where  
our Art has risen to a wonderful degree of perfection.  
This is the grand amphitheatre in which the philosophic  
Bichat, aiding his colossal genius by industry and re-  
search, has immortalized his name, advanced his  
profusion, and done credit to his country; and here al-  
so, Comisart and Larouee of late, have astonished  
the world by the wonderful certainty of their diagno-  
sis in diseases, which, before their time, were either  
not known to exist, or if known at all, involved in  
the obscure mists of incertitude, which always  
gave rise to a practice, if not injurious, at least



superficial and useless.

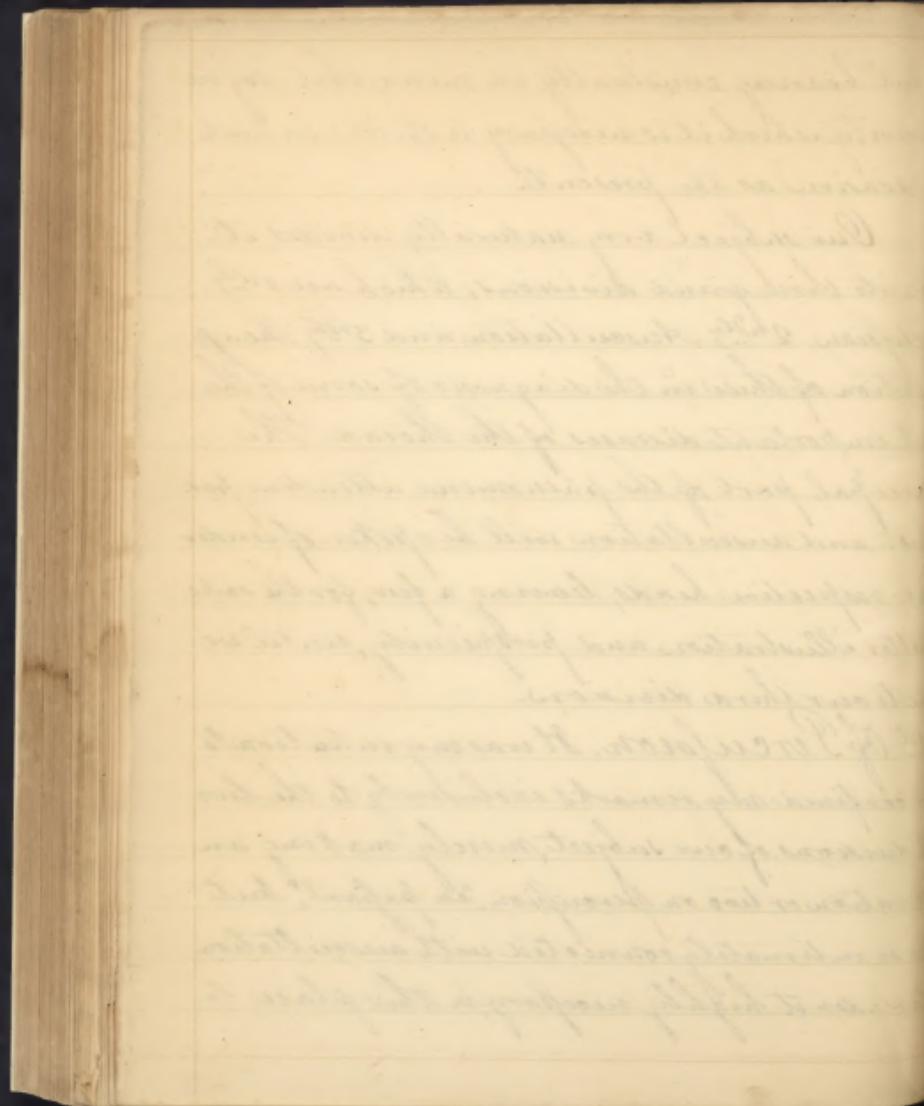
I have chosen the present subject, not because it is new, but because I deem it of much more importance than it has generally received by the physicians of this country. I am authorised to express myself with some degree of confidence with respect to the means employed so generally in France, from the circumstances of having had daily opportunities of using auscultation and percussion in the Philadelphia Almshouse Infirmary, both before and during my residence in that excellent institution. Whilst I was resident student of the Almshouse, it was always in my power to apply the stethoscope, daily, to many patients labouring under different thoracic affections, and of ascertaining the correctness of my diagnosis, after death, by an inspection of their bodies. Let us now advance more directly to the vast field which lies before



us, but bearing constantly in mind, that degree  
of brevity which it is necessary to observe on such  
an occasion as the present.

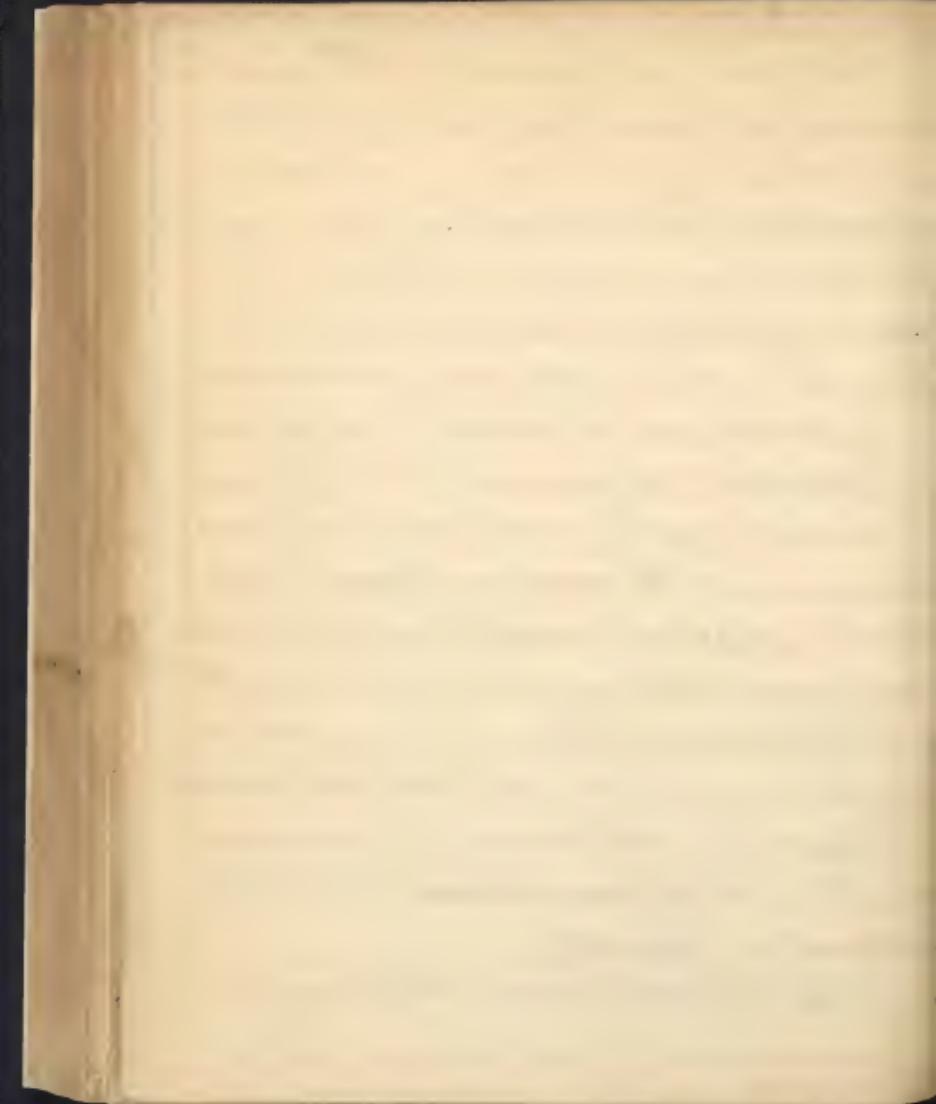
Our subject even naturally divides it-  
self into three grand divisions; which are 1<sup>st</sup>ly,  
Percussion, 2<sup>nd</sup>ly Auscultation, and 3<sup>rd</sup>ly The ap-  
plication of those in the diagnosis of some of the  
most important diseases of the thorax. The  
principal part of the phenomena attending per-  
cussion and auscultation will be spoken of under  
their respective heads, leaving a few, for the sake  
of better illustrations and perspicuity, until we  
come to our third division.

1<sup>st</sup> Of Percussion. It was my intention to  
have confined my remarks exclusively to the two  
last divisions of our subject, merely making an  
observation or two on percussion, in passing, but  
it is so intimately connected with auscultation,  
as to render it highly necessary, in this place, to

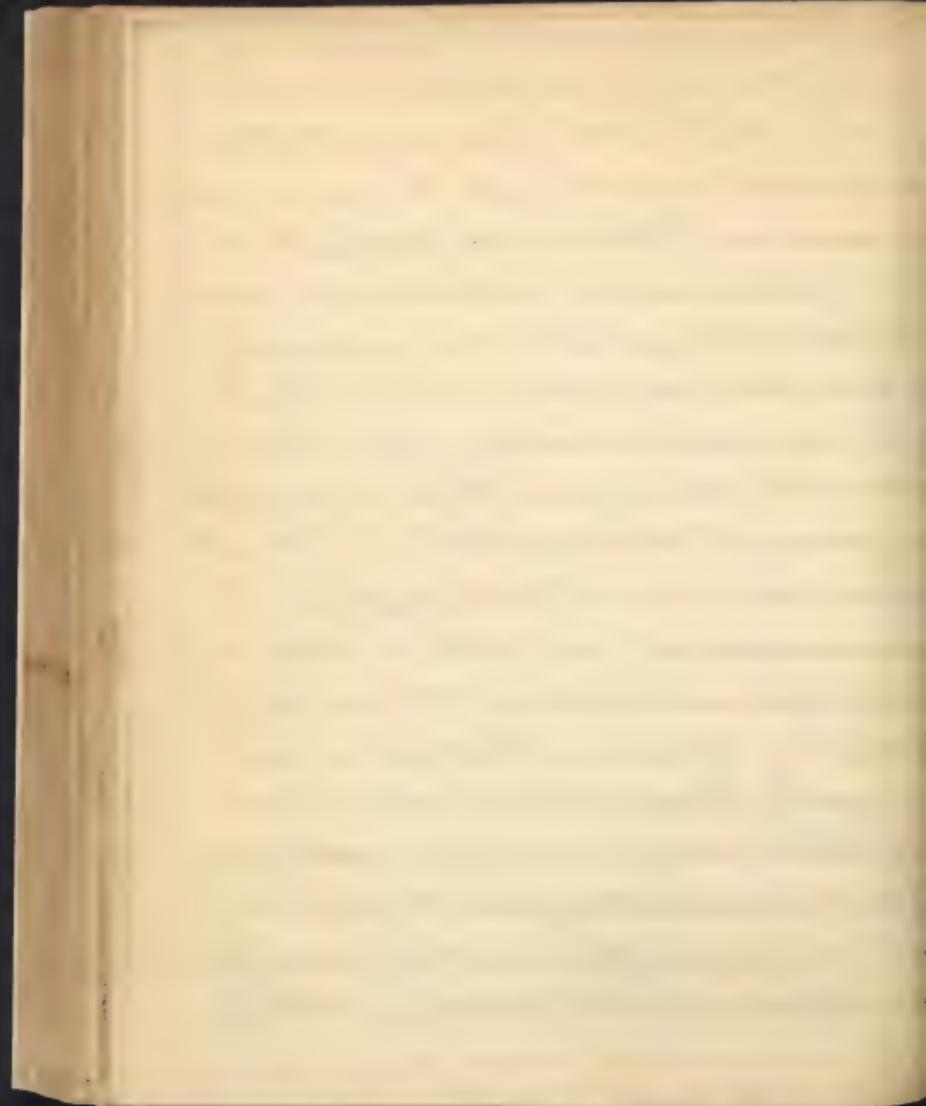


give a brief sketch of it separately. This method of examining thoracic diseases was first practised by Auenbrugger, a German physician, of considerable reputation. Perception, according to Dr Clarke, is as commonly resorted to in Paris, in the diseases of the chest, as the pulse is in England, in fevers. The method of Auenbrugger consists in striking the chest with the ends of all the fingers brought to a point taking care that all the fingers strike the chest synchronously and in a singular manner. The sound emitted when the thorax is in a perfectly healthy condition, has been compared to striking an empty barrel with a mallet; but surely this is a very great exaggeration, for to my ear, it has hardly the faintest resemblance to it, the sound of course, non  
Nouvelle methode pour reconnoître les malades internes, par Corvisart.

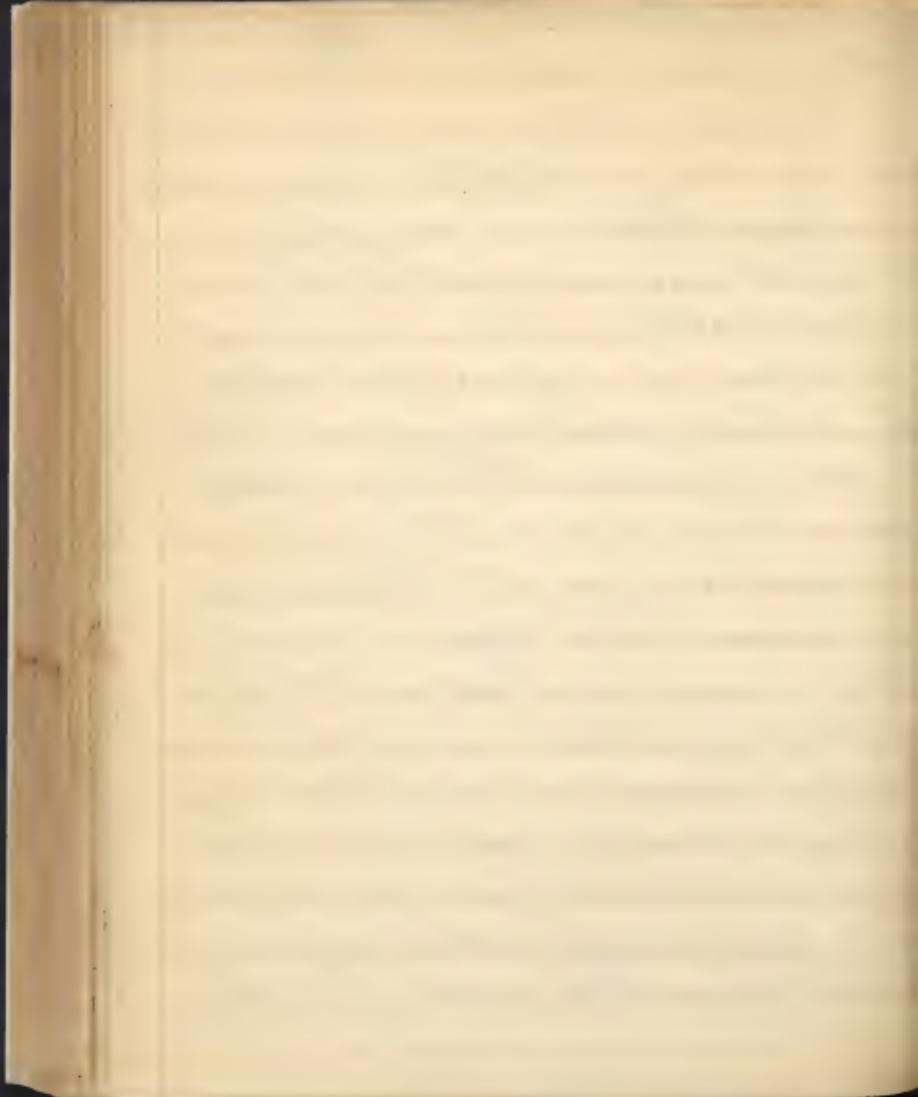
De l'percussion thoracis. Auenbrugger.



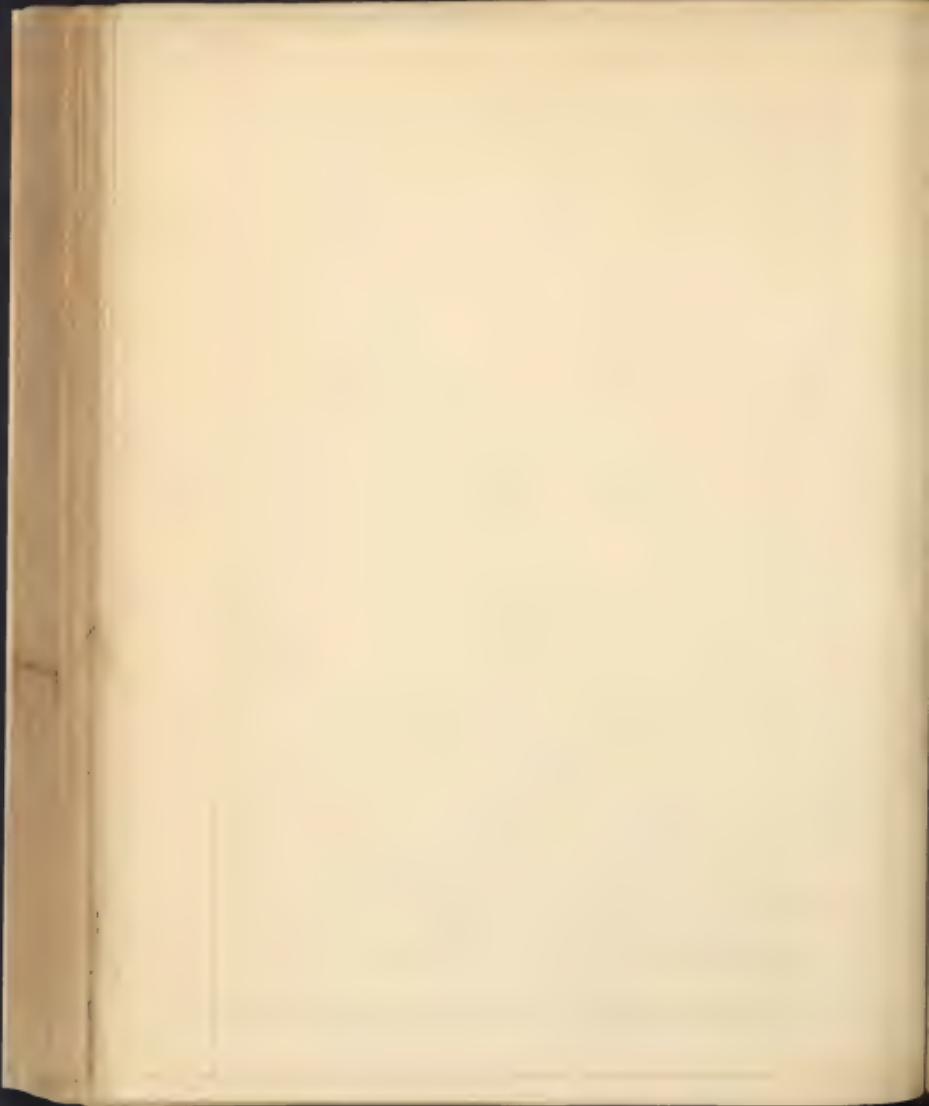
being a peculiarly indescribable one, which may easily be learned by those who will strike a sound chest a few times in the manner above described. If the chest be partially or entirely filled with a fluid, as serum or pus, or by a solid body, as a tumour, upon applying percussion, we perceive a dull, or "matt" sound, very much resembling that which is produced by striking the thigh, palm of the hand, or any other solid part of the body with the ends of the fingers collected together! The sound, as commonly sent forth, is either obscure, or clear in proportion to the extent of the existing effusion. The sound is also commonly obscure over the diseased part only, all the rest giving a clear resonance. In order to become well acquainted with the slight shades of difference which sometimes exists between a slightly diseased state of



the thoracic viscera, and a perfectly healthy  
one; requires long practice and great exercise  
of the judgment; indeed, to form a correct de-  
agnosis under these circumstances, requires us  
to be perfectly acquainted with the phenomena  
of percussion, both in sound and diseased sub-  
jects. Dr. Lenne says, percussion, according  
to the method of Auenbrugger, is one of the  
greatest acquisitions that has ever been  
made in medicine: nevertheless, it is far, in  
itself; from being complete, there existing  
many diseases in which it does not aid us in  
forming our diagnosis at all, as phthisis pul-  
monalis, pneumonia-thorax, and all the diseases  
of the heart unaccompanied with enlarge-  
ment of its diameter; and there are adven-  
titious concomitants of some diseases, as un-  
aware, great soreness of the integuments  
&c. which render it unavailing in those



very delicate in which, under ordinary circumstances, it affords the clearest induction. Who," says the illustrious Domineau "is not found here, for so indistinctly, certain enlargement of the heart, as not to be recogniz'd but by this the most shaggy in its use?" Besides, this method is so deceiving as to make it absolutely necessary, in every case with the exception, to test it several times before making any particular claim; for, in various combinations, it may yield a decepted source indicating organic lesions of the thoracic viscera, when neither so much irrit, nor a healthy one, on the contrary, when the lungs, heart or pleura are mortally disorganized. The utility of bronchopneumonia is unexceptionable manifest to every one who does not view it too hurriedly. Then we find that



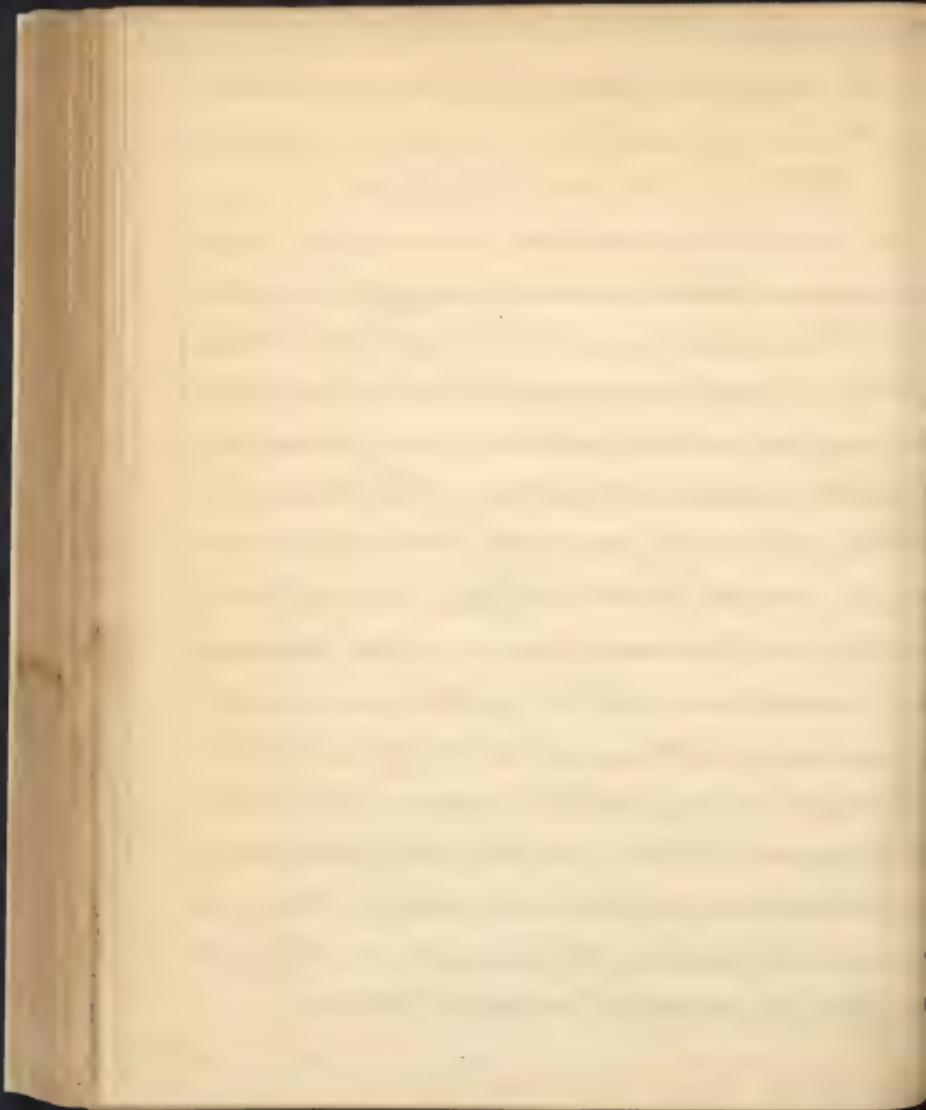
more than one half of the patients affected  
with the severer pectoral diseases, in the hospi-  
tals of Paris before its introduction, died; and  
at present, the mortality, is greatly below  
half; we must conclude, the treatment of these  
complaints has made great progress towards  
perfection, and we can attribute this success to  
nothing else than the general use of percus-  
sion or the least suspicious of a diseased dia-  
xate, seconded immediately, by energetic ma-  
dication. Percussion has of late, had its utility  
greatly enhanced by being associated with  
auscultation in the diagnostic art; and the  
two combined, have recently, shed a light  
unparalleled in the annals of medicine, upon  
a most alarming class of maladies. We  
shall now proceed immediately, to auscultation,  
leaving what remains to be said of  
percussion, until we come to its applica-



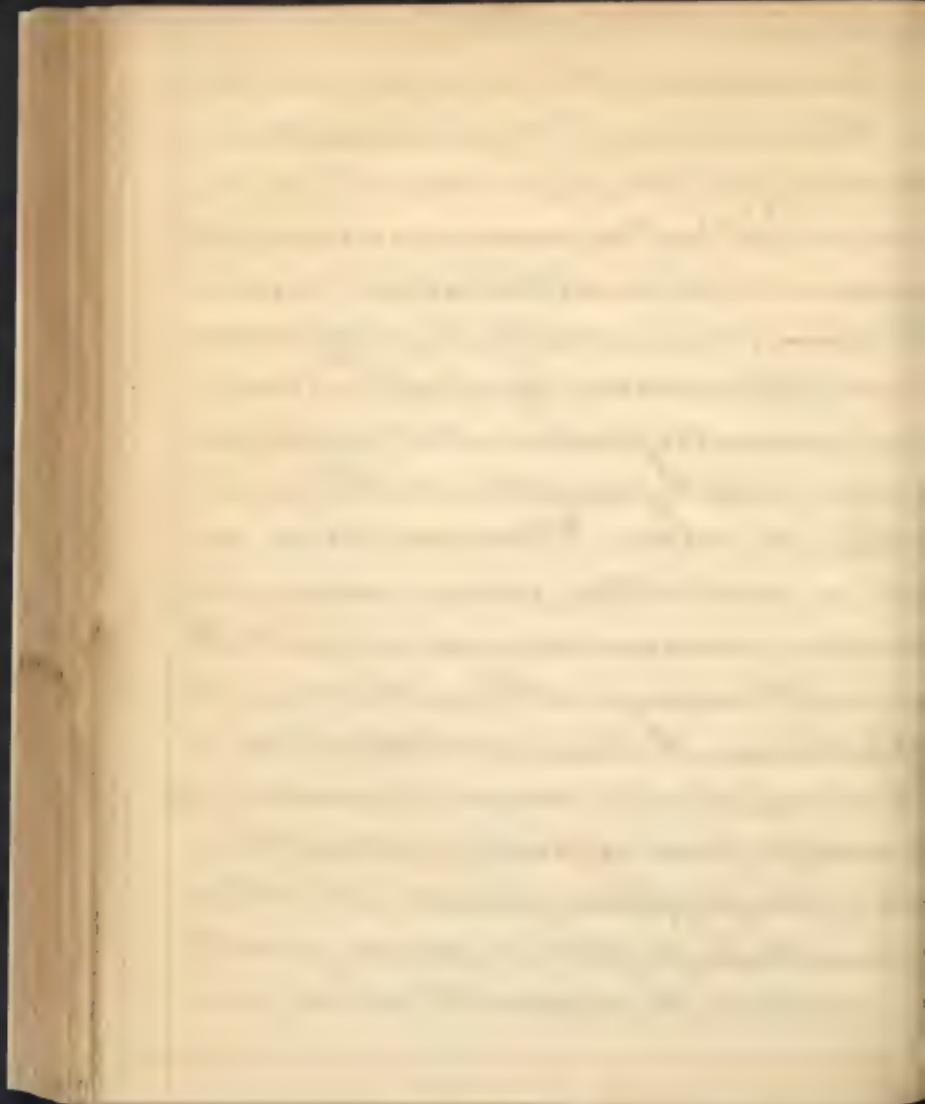
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now in conjunction with his very interesting and novel subject, to thoracic diseases.

## 2<sup>nd</sup> Of Auscultation. Auscul-

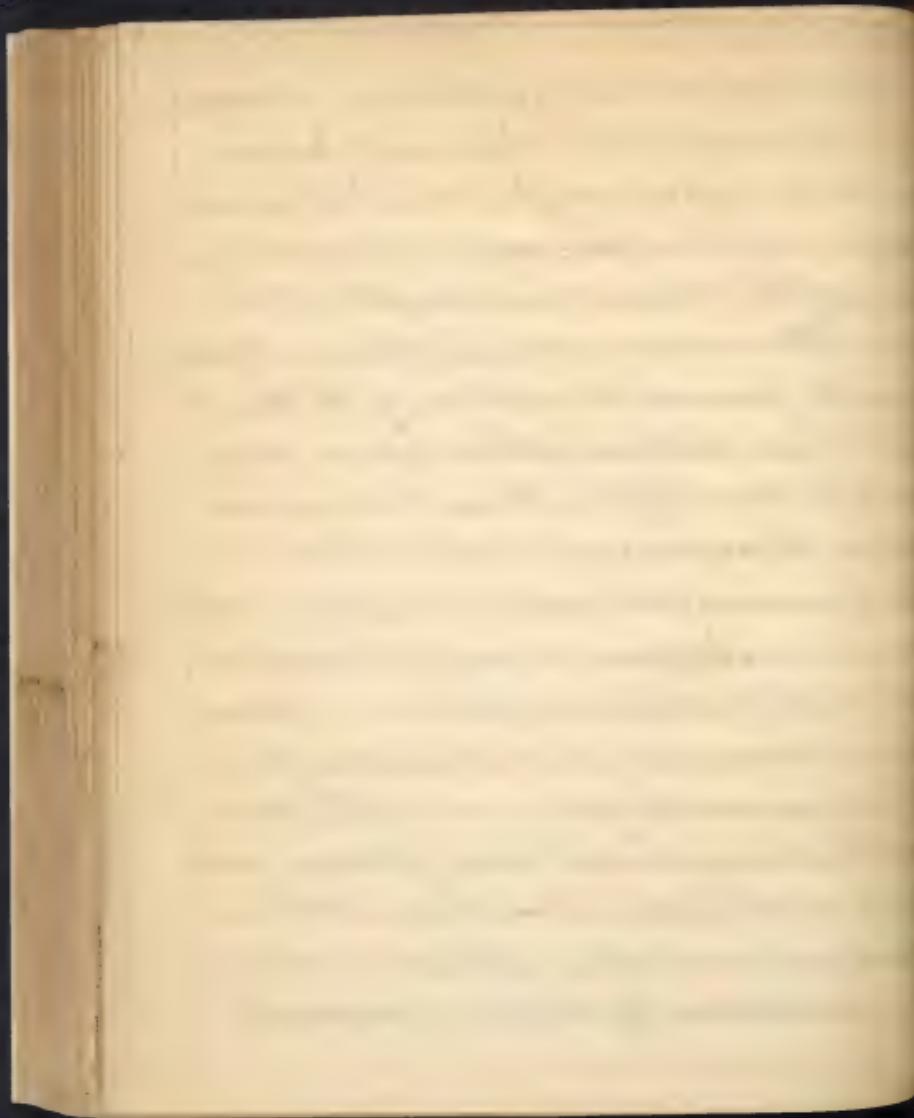
tation is either immediate or mediate. Immediate auscultation consists in applying the ear to the breast, or any other part of the thorax, opposite the part we suspect to be diseased, or in which, we wish to ascertain any phenomenon of the internal structure. This plan has been long in use by some physicians in organic lesions of the heart, though I do not recollect that M. Corvisart, in his work, has made any mention of it. By this means the diagnosis of certain obscure affections were more manifest than merely by percussion, and the other guides, independent of its assistance; yet, all were uncertain and incomplete until M. Launee, in the year 1816, applied mediate auscultation!



Mediate auscultation means nothing more than listening through some medium, instead of applying the ear directly to the thorax, which is often rendered inadmissible on account of the sex of the patient, or some other cause; when admissible, it affords no efficient phenomena, by which, we can form a correct opinion as to the nature, or progress of the complaint. The first patient, on whom Dr. Laennec tried immediate auscultation, was a young lady labouring under a diseased heart. It being a little disagreeable, in this case, to apply the ear, Mr. Laennec thought of a well known law of acoustics; namely, if one end of a piece of timber is scratched with a pin, by fixing the ear to the other, we hear the impression of sound, greatly augmented. Immediately the experi-

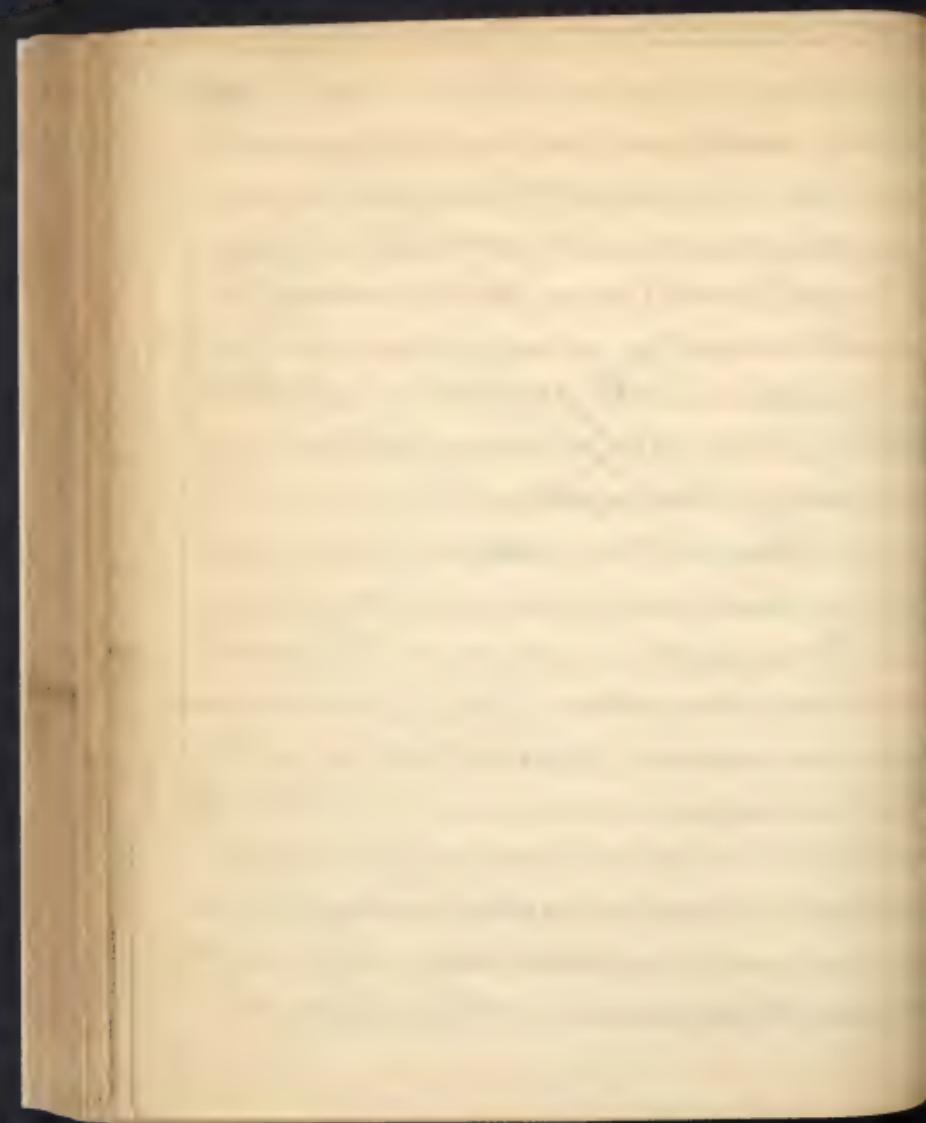


ment was made to see if this law of accou-  
ties was invariable - A piece of paper  
was rolled up in a cylindrical form, and  
loures applied one end to the cardiac  
region of the patient and the other to his  
ear - He was very much pleased to find  
he could perceive the action of the heart  
much more distinctly than he had ever  
been able to do before. From this time, com-  
menced the experiments, which have, to  
use the words of the author, "enabled us to  
discover a set of new signs of the diseases  
of the chest, for the most part certain, sim-  
ple and prominent, and calculated, per-  
haps, to render the diagnosis of the dis-  
eases of the lungs, heart and pleura as de-  
cided and circumstantial, as the in-  
dications furnished to the surgeon by  
the introduction of the finger or sound

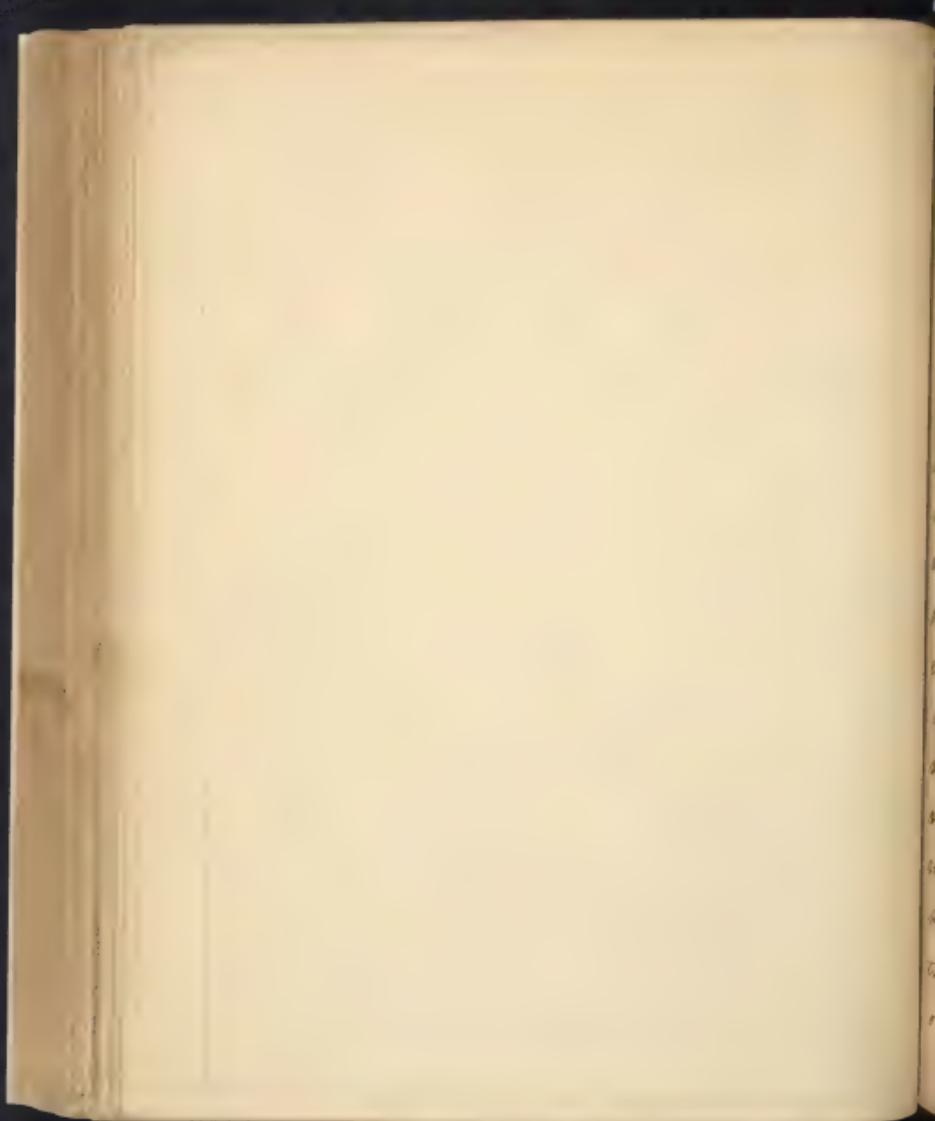


in complaints wherein these are used." After variously contrived and multiplied instruments were tried to ascertain which conveyed the sound most distinct and augmented; the result was, that bodies of a moderate density, as a cylinder of light wood, answered the purpose much better than steel, brass, or any other very dense body. These experiments were so various, and the results so constant as incontestably to give the wooden cylinder the preference.

It may not be improper in this place to give a brief description of the cylinder, or as Señor has named it, the Stethoscope, used by those who practice mediate auscultation. It consists of a hollow cylinder of light wood, from twelve to sixteen inches in length, and from an inch to an inch and a half in diameter. A perforation extends from one

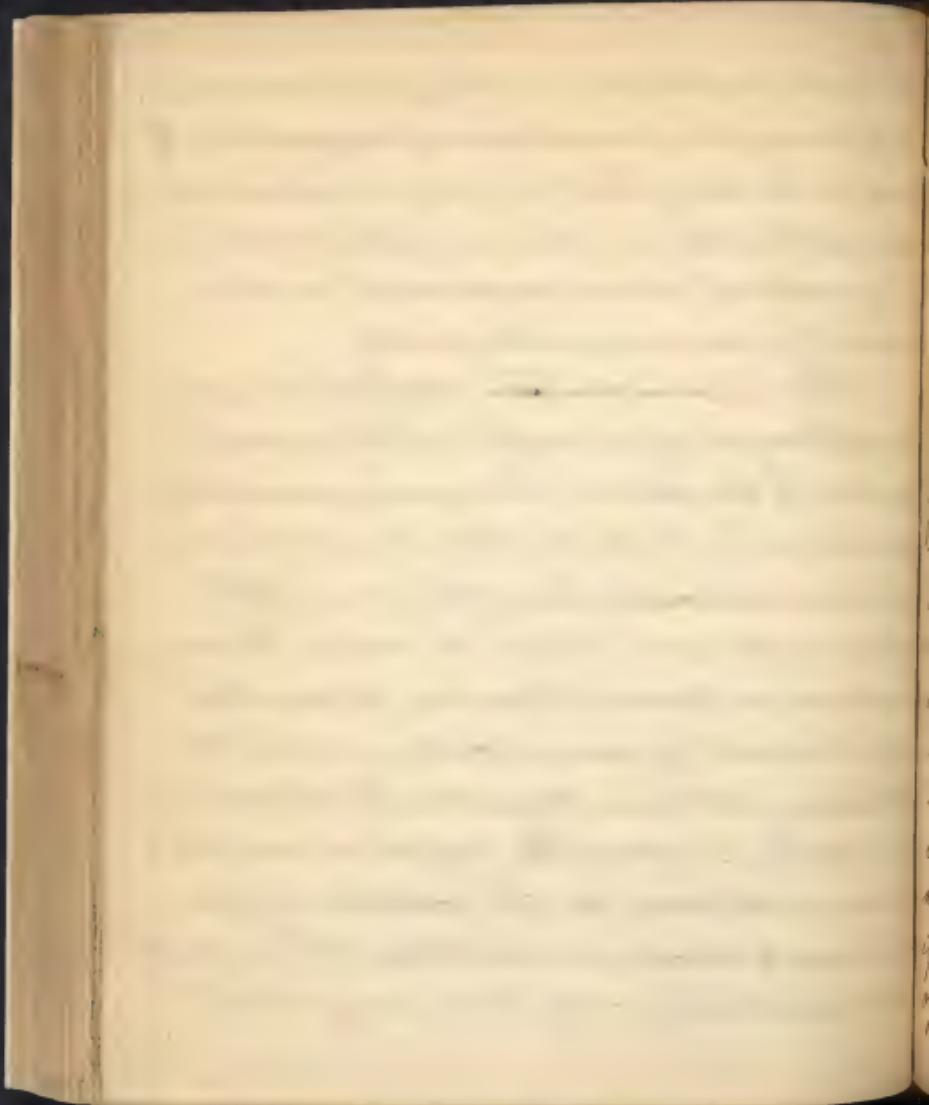


end of the cylinder to the other the diameter of the bore being about one fourth of an inch. The end of the instrument which is subjected to the patient is hollowed out for about half an inch or more, in shape of a cone or funnel which cavity can be obliterated at pleasure by means of a plug, which fits it accurately, having a central bore through it rendering the instrument always a perfectly porous tube. In this plug there is commonly fixed a hollow cylinder made of thin sheet brass, or other metal, fitting it very accurately, for the purpose of better and more firmly attaching it to the main body of the instrument, when necessary. The stethoscope, with the funnel-shaped plug attached, is used for exploring the phenomena obtained through the medium of the voice and action of

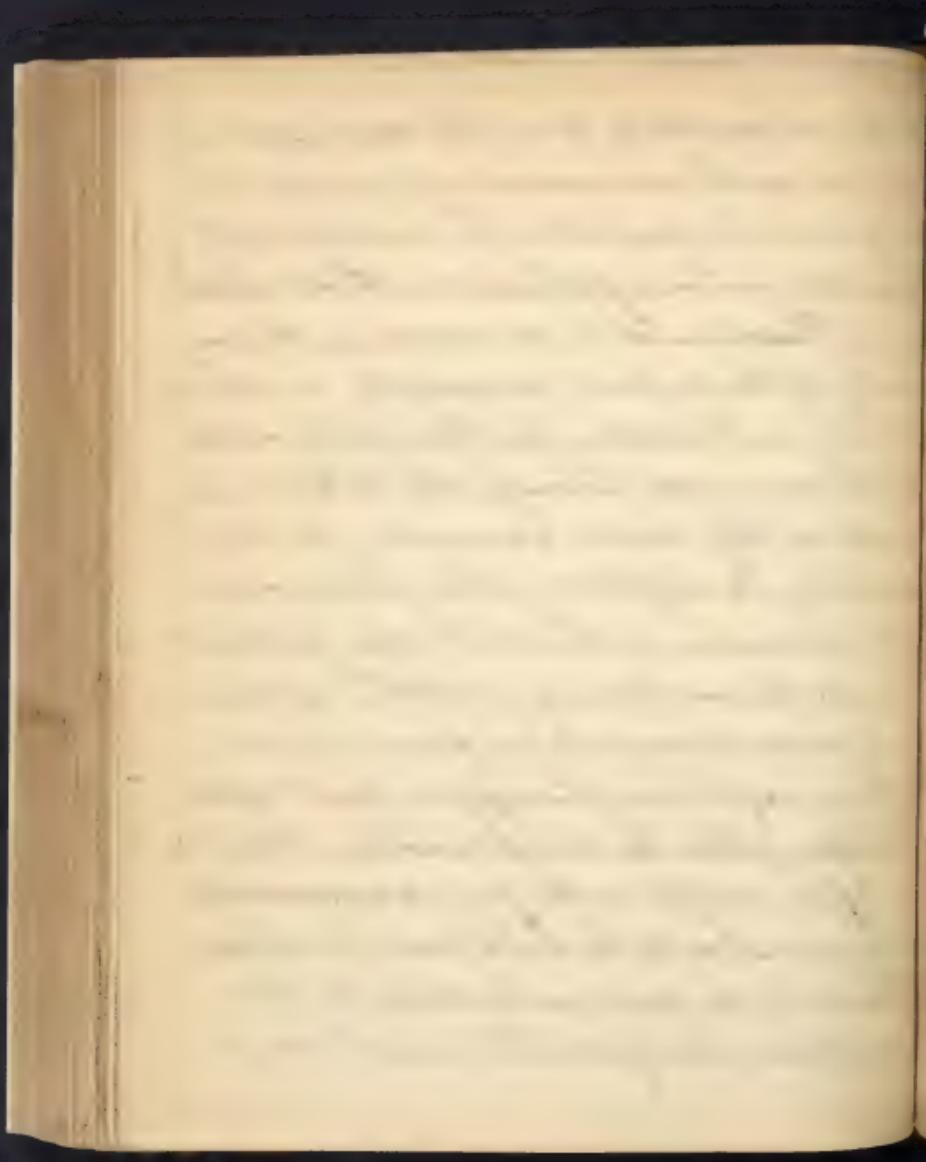


the heart; without this plug, it is used in exploring the phenomena of respiration. It may be divided into two parts, which can be skewed together at the will of the operator—this makes it a very convenient instrument to be carried in the pocket.

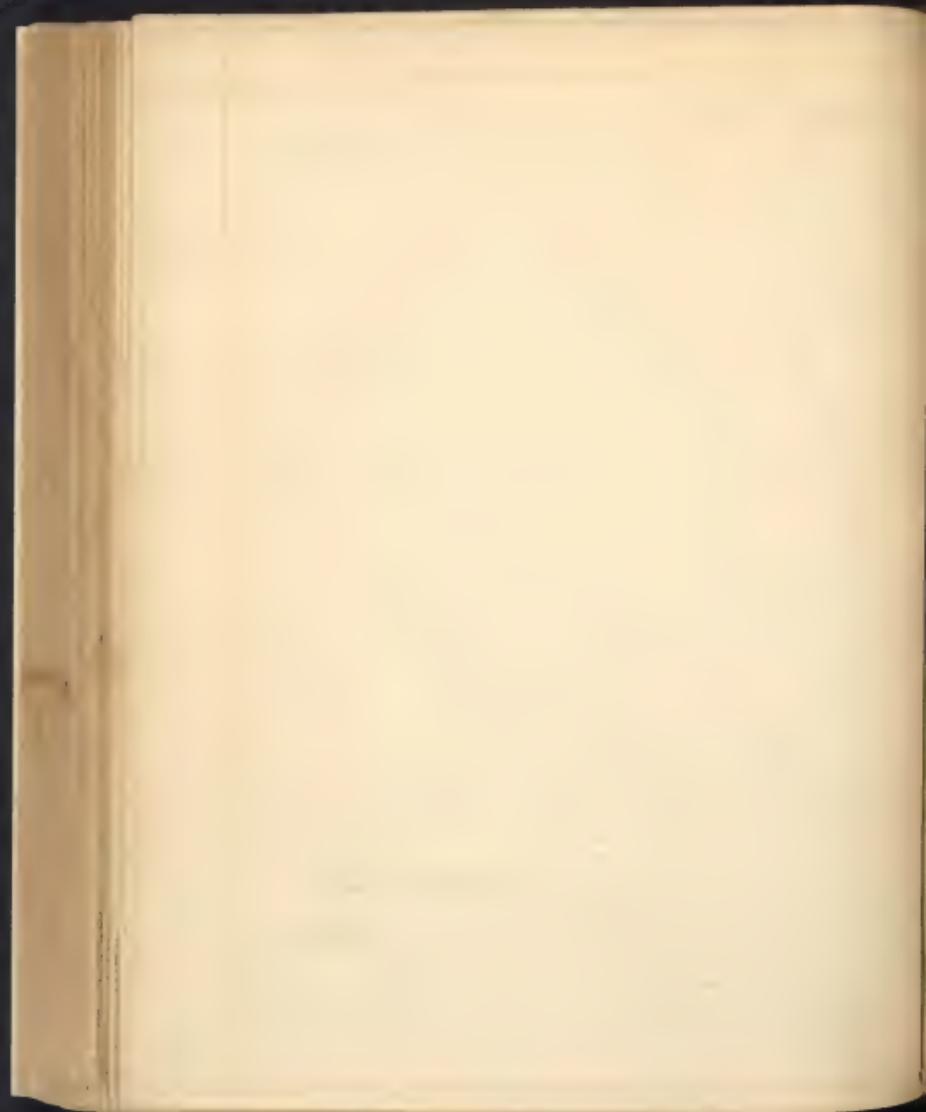
There is some caution necessary in using the stethoscope, if we wish to obtain exact results. If the patient be much emaciated, as generally the case when we use this instrument, we should always place a little cotton or soft wool between the end of the cylinder and thorax, otherwise, it would not fit correctly, and of course, we could not form a certain diagnosis. We should not apply it upon silk, paper, or any other hard substance, for the friction upon this, would convey a vibration, which might obscure entirely, or at least, complicate



the sound emitted from the diseased organ, in such a manner as to render the diagnosis imperfect. The instrument should never be applied over thick clothing—There should be no noise in the vicinity of the patient, especially, now whispering in the room, for these obscure the sound conveyed through the tube in a greater or less degree, according to their intensity. In exploring the phenomena of the diseases of the chest, the patient should be seated, if possible, upon a stool, and always lean from us, except in exploring the upper part of the shoulder, when he must incline towards us. If the axilla is the part examined, his hands should be held over his head; if the back be the part subjected to the operation, the patient must bend



forward, at the same time crossing his  
arms before. It is always advisable he  
should turn his face away from us  
whilst examining him. The end of the  
instrument which contains the stopper,  
which is applied to the trachea should be  
slightly excavated to insure its greater sta-  
bility. We should not hold the stethoscope,  
as most persons are inclined to do, at first,  
by the middle or upper extremity.—On the  
contrary, we must hold it in the manner of a  
pen, with the hand at the lower end of it,  
and resting firmly upon the body of the pa-  
tient. This method ensures a firm ap-  
plication of the instrument. Everything  
being thus adjusted, we next present  
our ear to the end of the tube resting, taking  
care to adjust our ear to the stethoscope and  
not the tube to the ear, for if we move it,

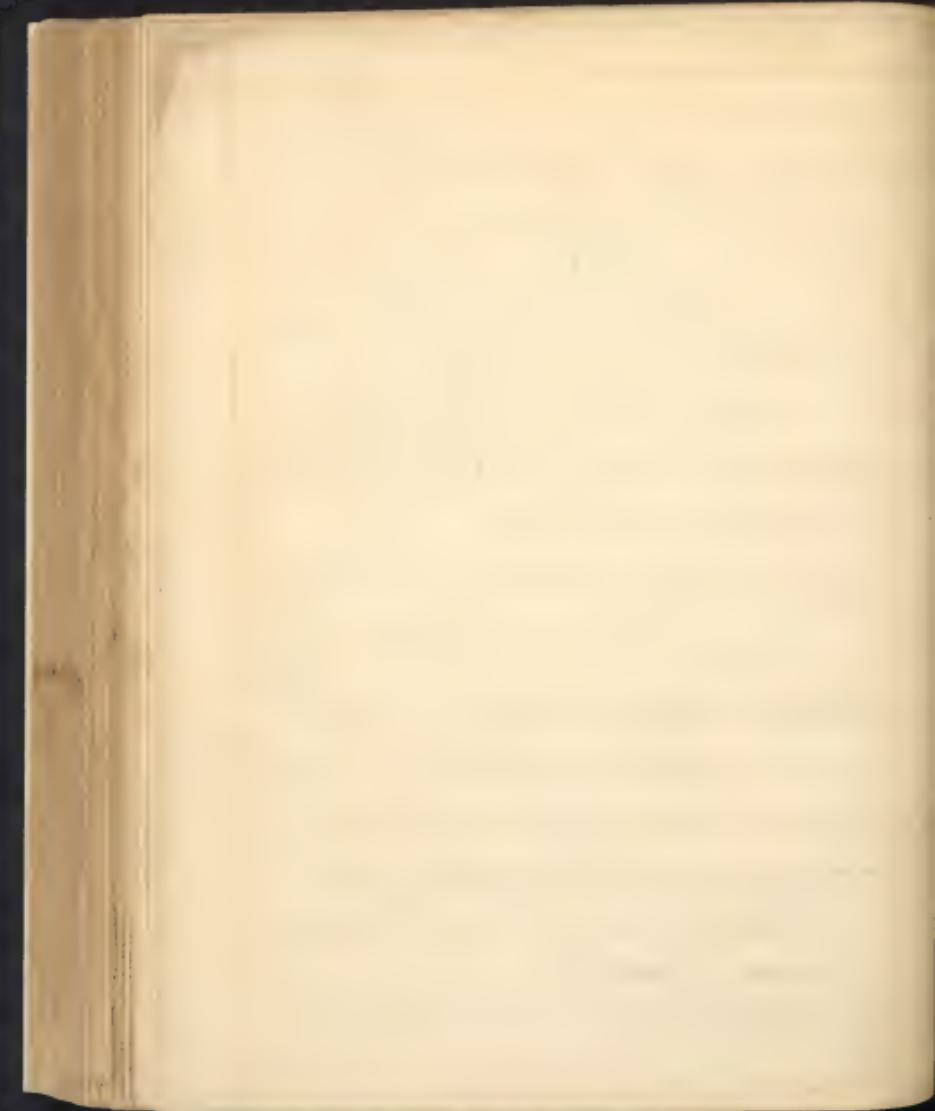


1.

external sound may enter our ear, we  
will in proportion to the indications  
afforded by the heart we are in,  
comprehend all the hearing there,  
but there are others, which we are still  
unacquainted with the instrument, to con-  
sider and correctly; such as haemophony,  
the different voices of rattles, &c. which  
shall be noticed in due time.

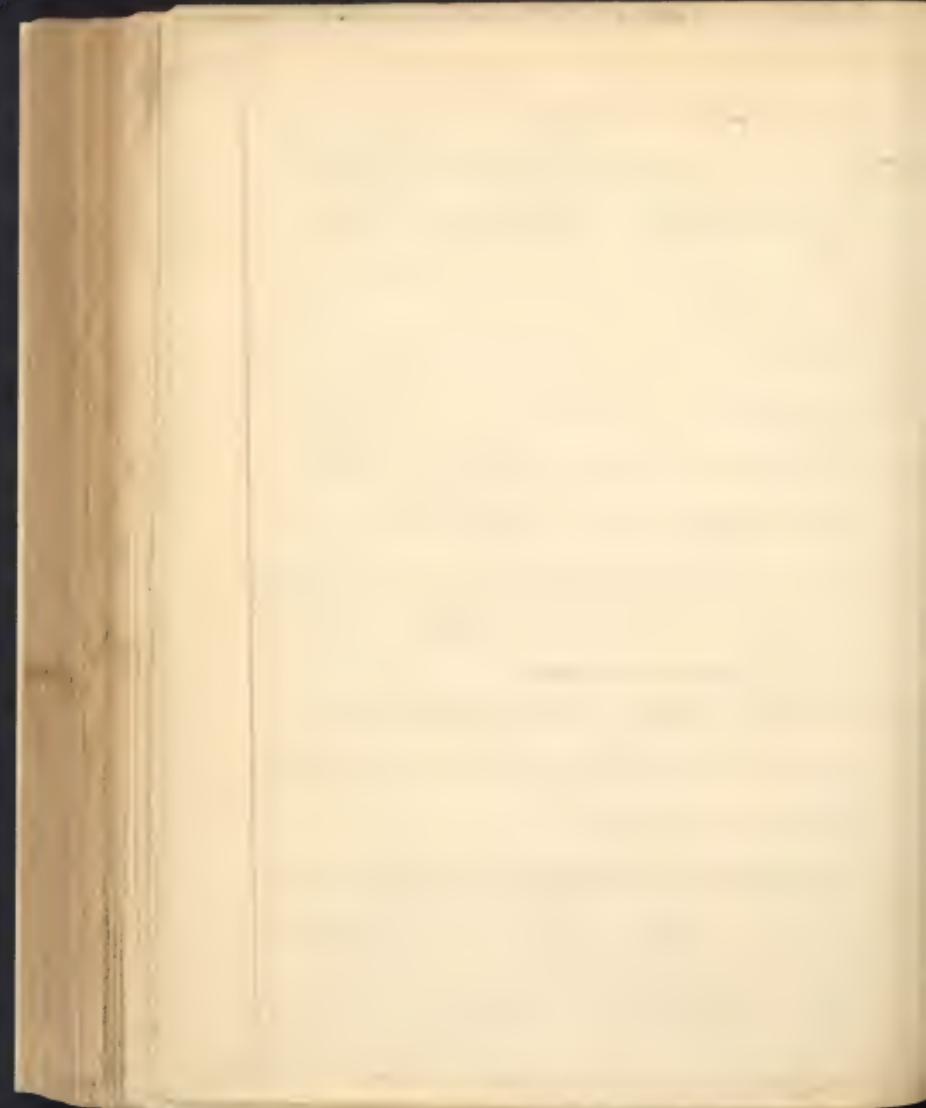
The phenomena produced by the aid of  
the heart, &c. I shall examine under the  
two heads heretofore, and now. Under the  
first, I shall investigate 1st the voice, 2nd the  
respiration, and 3rd the circulation—Under the  
first head comes the phenomena called,  
1st hecotoriosism, 2nd haemophony,  
the metallic tinkling, &c. &c. & the var-  
ious kinds of rattle.

The first subject which naturally



presents itself under this head, is 1. The Voice. The vibration which is so sensible to the hand placed upon the thorax whilst a person speaks or sings, is very obscure under the stethoscope, and has been said by some, not to exist at all. The parts in which this vibration is most sensible, are the nilla, the back, between the spine and edge of the scapula and in the anterior and superior part of the chest near the angle formed by the union of the clavicle with the sternum. When the tube is applied, the voice generally appears stronger and nearer to us; but on the inferior part of the thorax, it is remote and much weaker than in the position above mentioned.

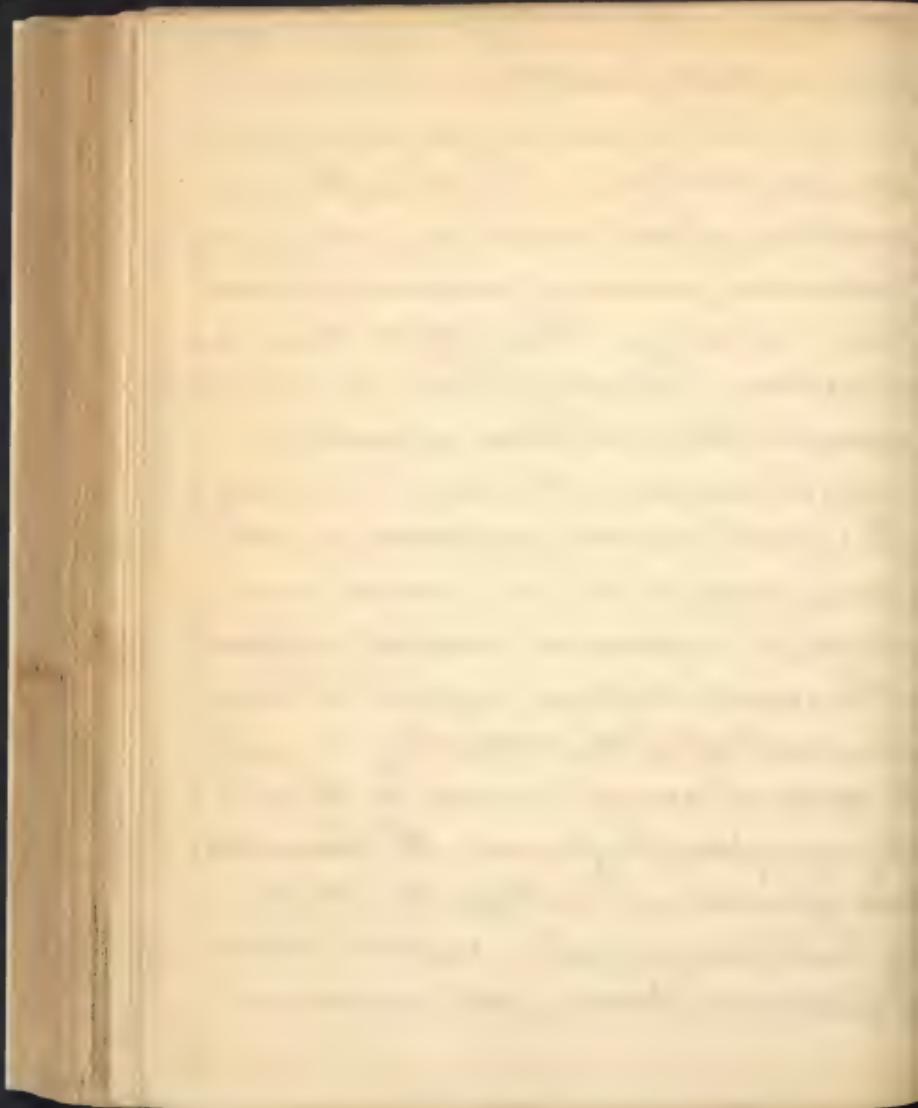
2. The Respiration. On applying the cylinder, with the funnel-shaped end open, to the chest of a perfectly healthy subject, we hear the respiration, murmur, which is very distinct, answering to



inspiration. This noise or murmur has been compared to that produced in the sputtering and rattling of a small valve, or still better, "to the sound emitted by a person in a deep and placid sleep, who makes now another a profound inspiration." It is most audible in the axilla and in the space between the upper edge of the trapezius muscle and clavicle. If we place the stethoscope upon the side of the larynx, or any portion of the trachea, we hear the inspiratory murmur equally as distinct as in the position above named position and in many healthy persons through this canal (the trachea) almost to the bottom of the sternum; but in the last mentioned place the murmur has a slight and peculiar modification, which alters, in some degree, the phenomenon. In children, respiration is very sonorous, even noisy, and can be heard through the thickest clothing. The respiration of children varies also in this

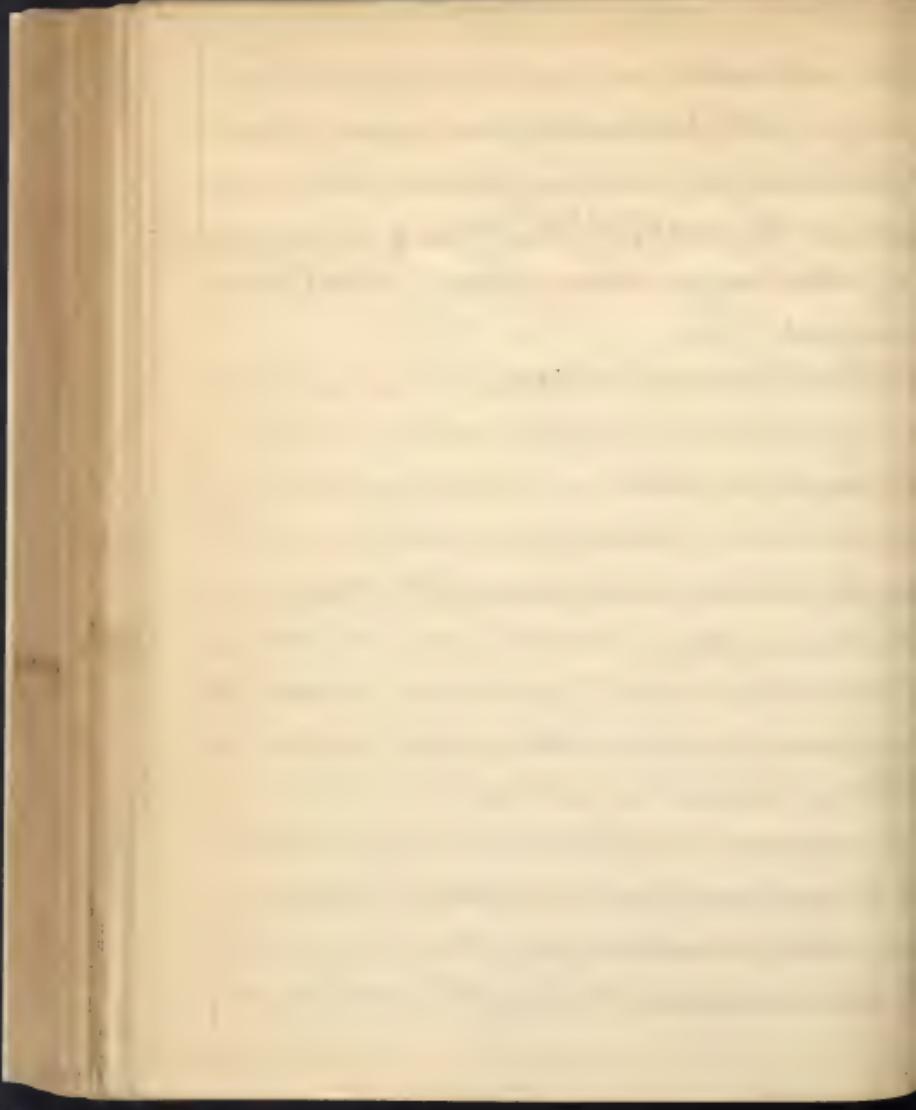


respects from that of adults, but these peculiarities are only to be acquired by accompanying the two. But some adults enjoying perfect health have their respiration different from the majority of persons. Particularly women of a nervous temperament, and preserving in other respects, the appearance of extreme juvenility. When the respiration resembles that of children, no matter at what age, it is denominated puerile or infantile. This is not caused by dyspnoea or asthma, for in patients labouring under such complaints, the respiration is entirely different from the puerile. External respiration being loud, does not affect the respiratory murmur, for the external sound is made by the air's impinging upon the fauces. M. Saunee examined a patient at the Hospital Necker, whose habitual respiration could be heard at the distance of twenty feet, and found



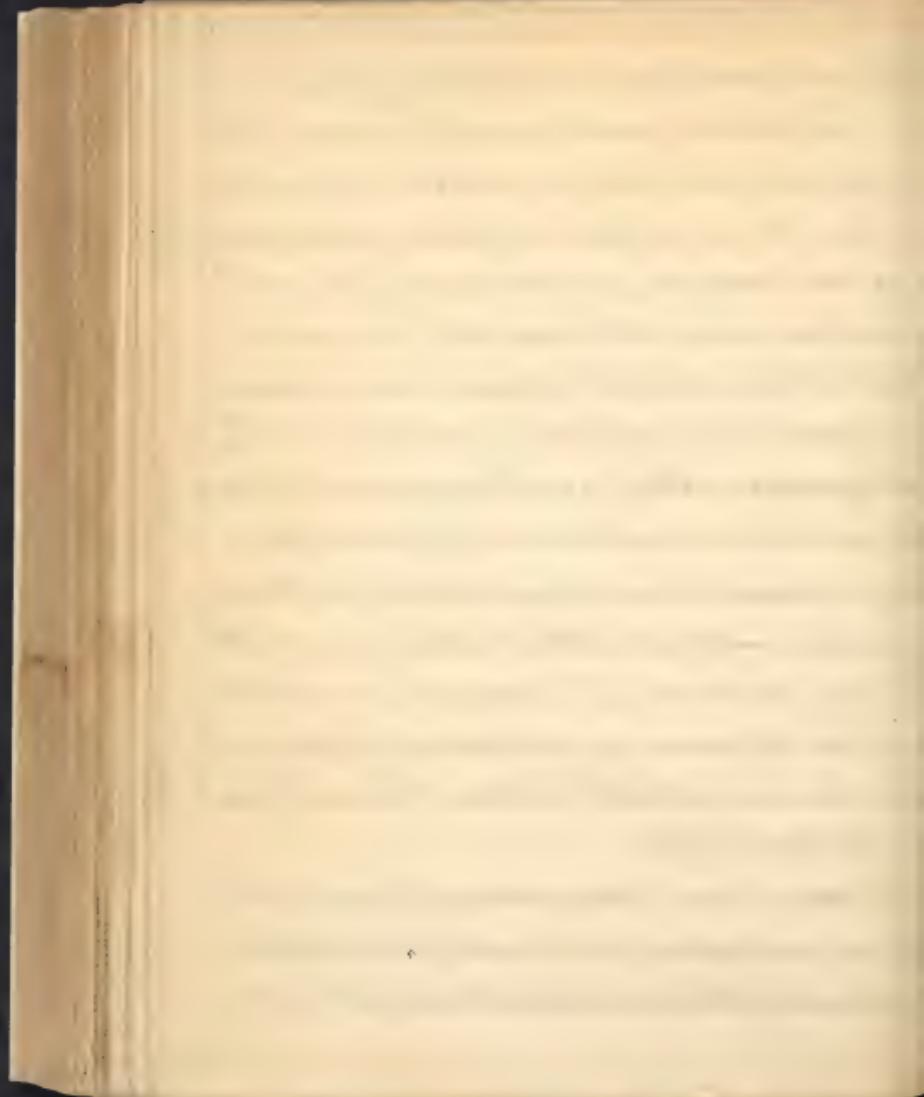
the true respiratory murmur to be less than ordinary. If the respiratory murmur is perfectly distinct, we may be assured there is no effusion in the cavity of the pleura, or engorgement of the lungs or bronchies, by blood, mucus, or pus.

3. The circulation. I have said little to say of the heart in a state of health; nevertheless I have thought the following consideration will be made before I enter upon the diseases of that organ. If application is made of the stethoscope to the cardiac region of a healthy subject, with a well proportioned chest and heart, we hear the alternate contractions of the auricles and ventricles; but if the heart is not well proportioned, or is moved from its natural seat, it is heard, in applying the cylinder, without the cardiac region, that is, without the space included under the cartilages of the fifth, sixth and

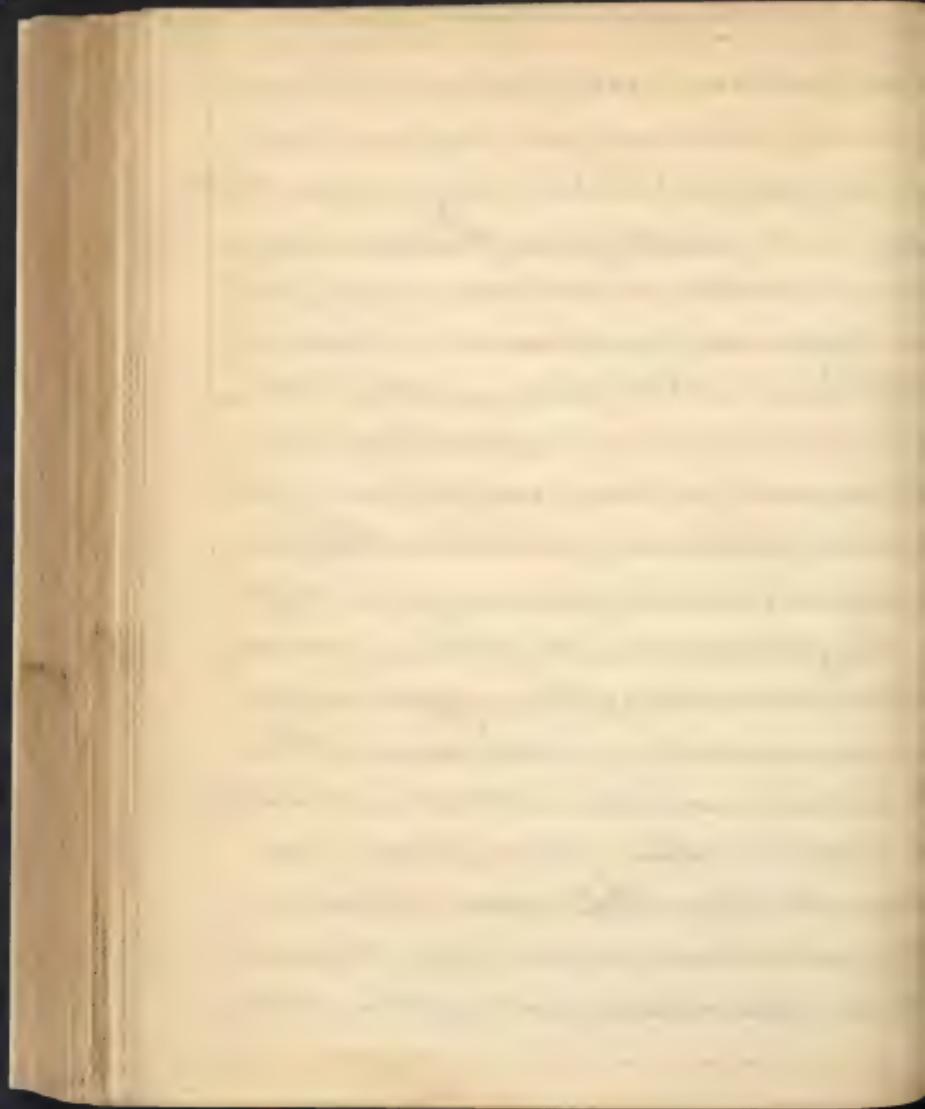


under the ribs and lower extremity of the sternum. The sound, under ordinary circumstances, conveyed to the tube, is doubled, or answering as two to one of each arterial pulsation. This double sound is produced by the alternate contractions of the auricles and ventricles, each being distinctly heard and making quite different impressions upon the ear. The auricles produce a clear, quick and crackling noise, whilst the ventricles make a duller and more prolonged sound, coinciding exactly to the arterial pulse and the shock which is given to the varieties of the thorax. The sound near at the end of the sternum is produced by the right side of the heart; that between the cartilages of the ribs, by the left.

We come now to our second class of phenomena indicated by the aid of the Stethoscope; namely, those whilst some of the inter-

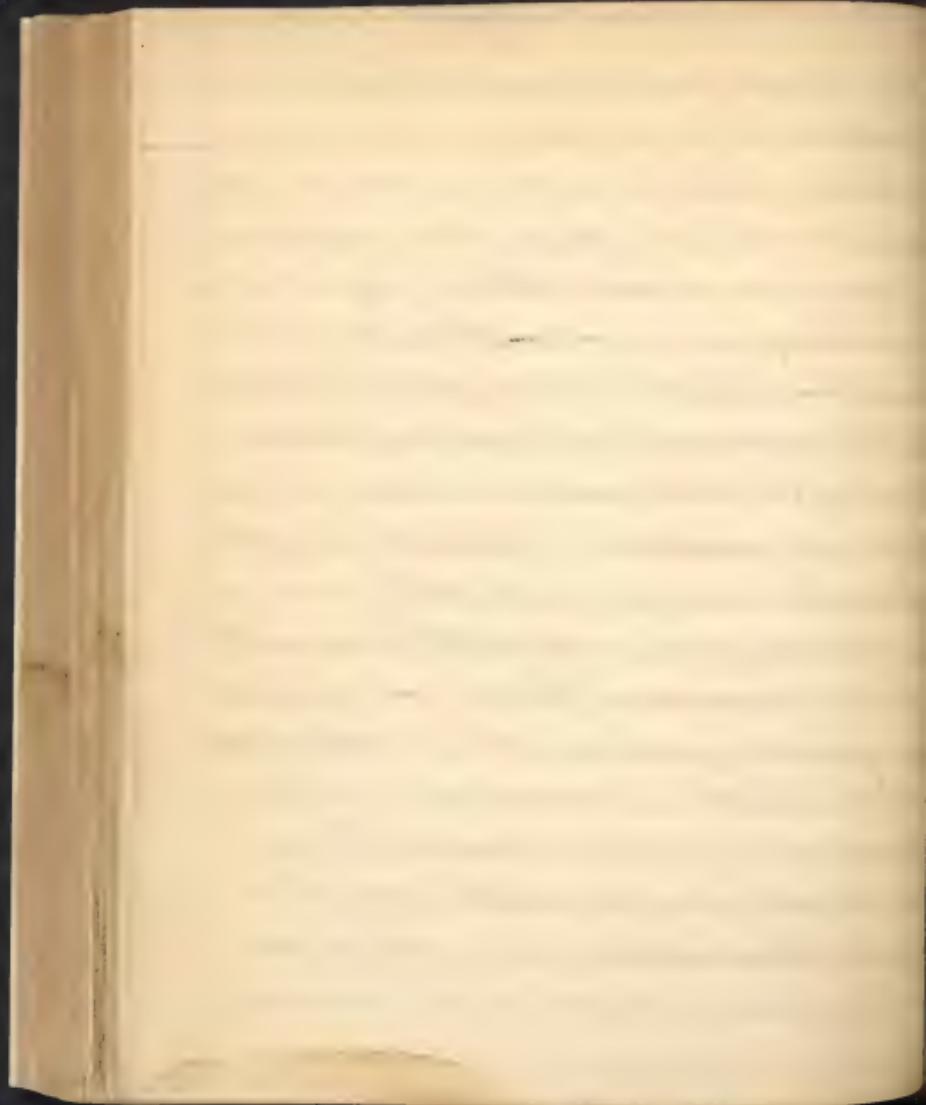


nal parts are in a state of disease. The most important of these and one which naturally strikes us first, is 1. Pectoriloquy, or Whistling. Dr. Lanneau was investigating the resonance of the voice in healthy and diseased subjects, he was surprised by a phenomenon entirely new to him. This took place, for the first time, in a female labouring under a bilious fever, accompanied by a social cough having the appearance of pulmonary catarrh. About twenty of the patients in the hospital were found to produce this phenomenon, all of whom were consumptive, and most of them, appeared to be in an advanced stage of the disease. The voice in these cases seemed to come directly from the chest, entering the cylinder and passing on to the ear. When some of these unhappy patients were carried off by the natural course of the malady, post mortem exam-

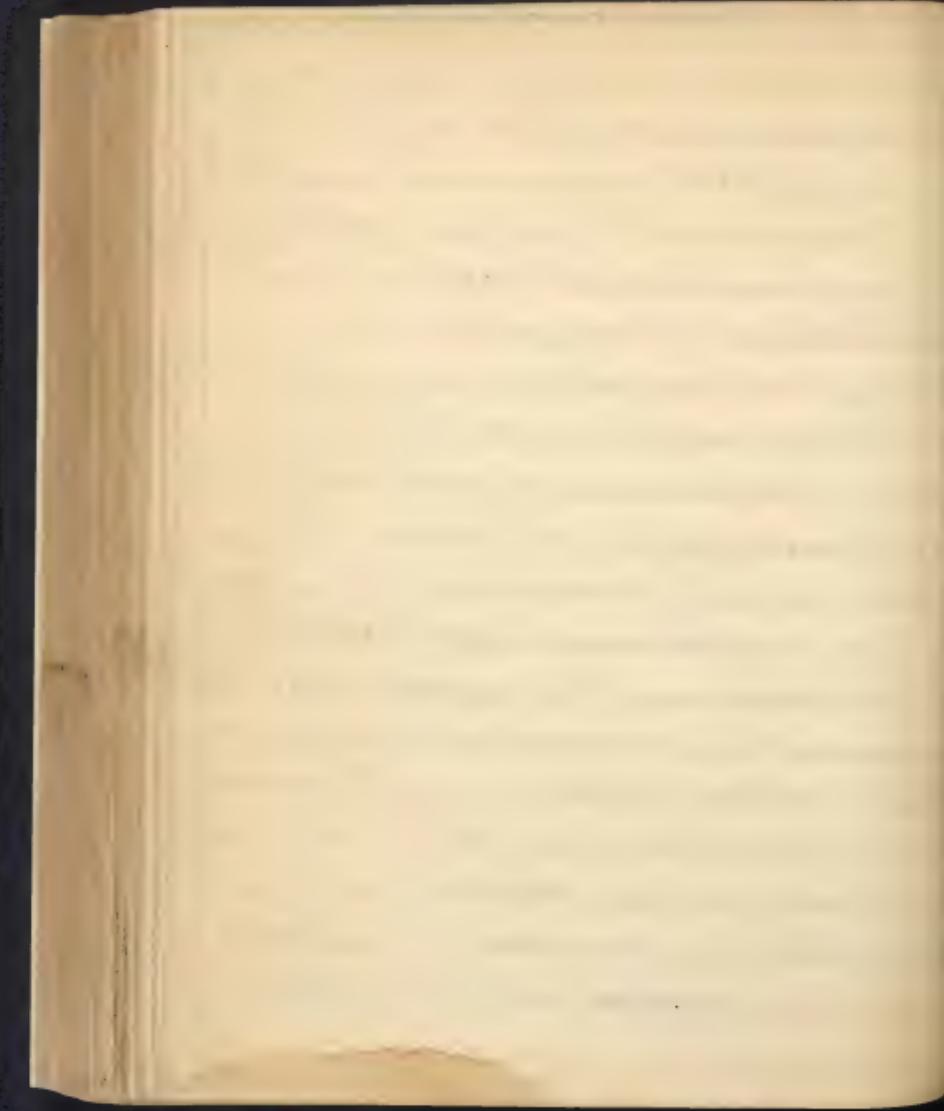


ations prove pectoriloquism, as had been conjectured, to depend upon an excavation in the substance of the lungs, communicating with the bronchial tubes by one or more foramina.

Pectoriloquism is most distinct in persons having a sharp voice, and in whose lungs, the excavation adheres by its edges to the pleura; but if the excavation be very deeply seated and the voice of the patient coarse, we hear pectoriloquism very indistinctly. If the tube is applied to the trachea or larynx of a healthy person we hear pectoriloquism as distinctly as in cases of tuberculous excavation. This curious phenomenon, generally, upon two or three trials, informs us if there exists an excavation of the lungs communicating with the bronchia. It is also more distinct when there exists a small excavation, than in case of a very large one. There is a kind of pectoriloquism, unconnected

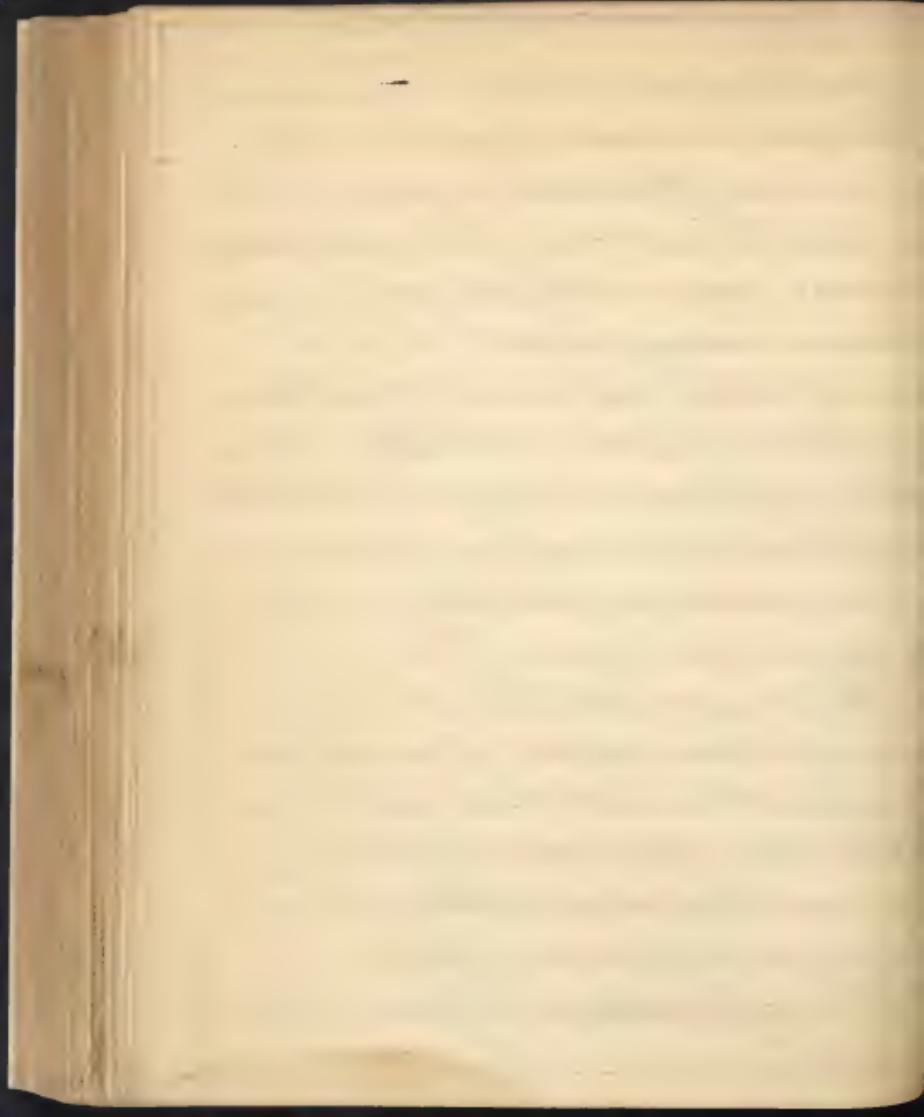


uncertain, which tends greatly to embarrass the inexperience; when they first hear it. This uncertain pectoriloquium is more acute than the certain, and a little altered, resembling the voice of ventriloquists, or rather, it resounds under the tubercles, loudly, without entering and traversing it as is always the case in natural and certain pectoriloquism. We have, says Lassalle, a perfect notion of uncertain pectoriloquium on applying the cylinder between the inner edges of the scapula and spine, opposite the origin of the brachialis, in a healthy person that is lean and has an acute voice. If we examine thin and narrow-chested children, we shall ascertain pectoriloquism to exist in the above parts, although their lungs may be perfectly sound. As above hinted, if the excavation be very considerable and deep-seated, we can perceive with a deep sound

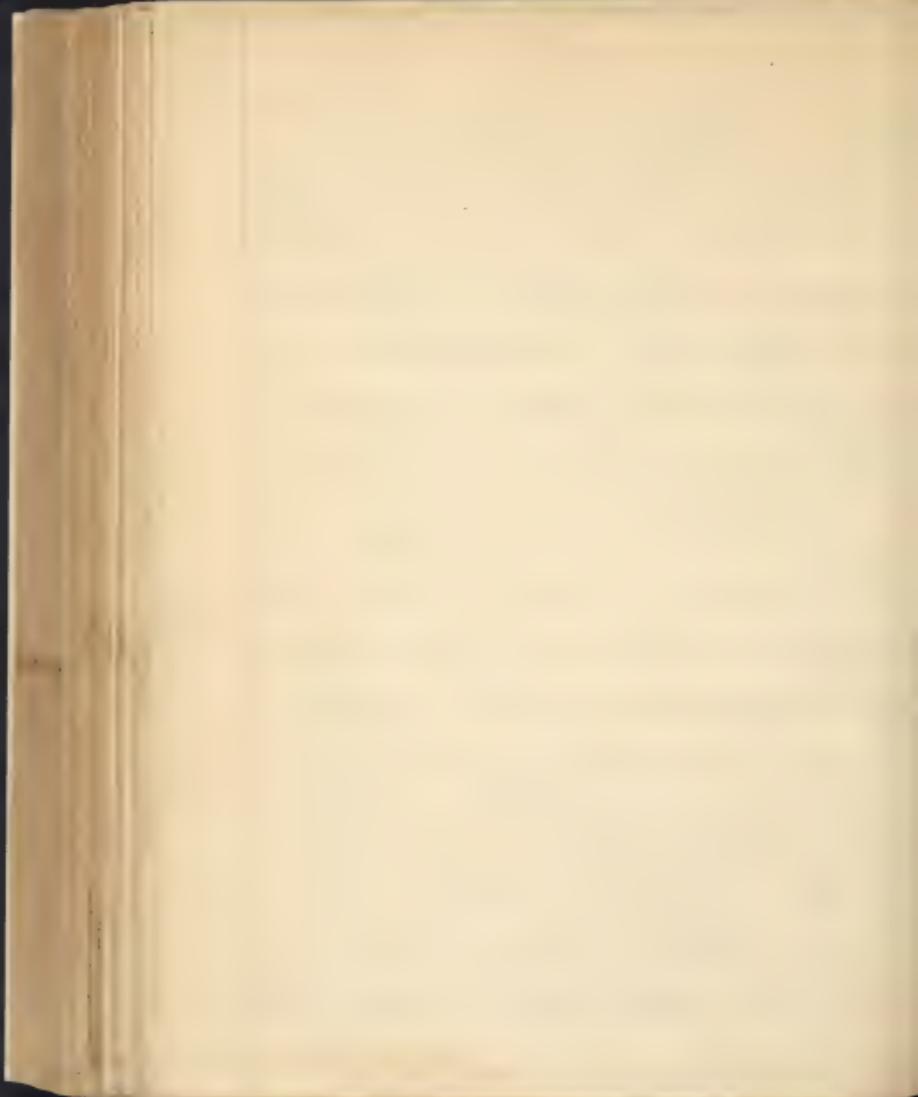


voice, pectorilism is obscure. By watching the phenomena of pectoriloquism, as they occur, we may often trace the progress of the narration. The most complete extinction of the voice does not affect pectorilism, M. Laennec having heard it distinctly, when the patient was unable to utter a single articulate sound. Although it is one of the pathognomonic signs of several diseases of the chest, it is so varied and modified, as to render it absolutely necessary to be very much experienced in it, before daring to prognosticate the fate of those unhappy beings whose sufferings make them all anxious to hear our opinion of their fate. This is the time of trial in the part of the physician, and here, we are to show the world what degree of voice we possess.

## 2. Hoarseness. Caprine pectorilo-

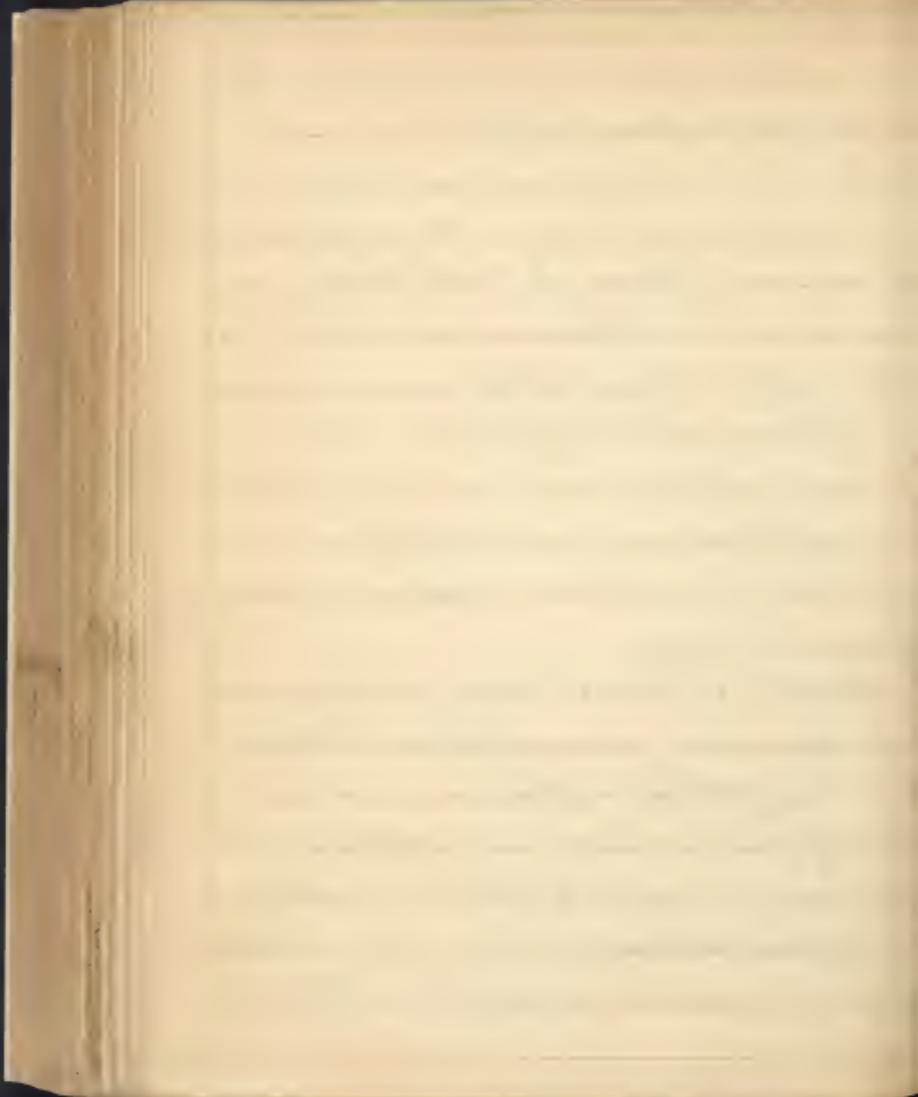


question of *Ecogphonium* is very nearly conne-  
cted with natural respirationism. The respi-  
ration is so great that M. Scamur for a long time  
thought the former merely a modification  
of the latter; but there is certainly sufficient differ-  
ence between them to allow of distinct names,  
as well as characters. *Ecogphonium* resembles  
the bleating of a goat (*cheopattement*), the  
peculiar sound which is made by blowing  
through a reed, or goose-quill split at the  
extremity. The cords which are articulated  
do not traverse the tube, as in pectorilognism,  
but either ascend under it without entering,  
or if they enter, disengaging apparently, be-  
fore arriving at the auditory cavities.  
The voice in *Ecogphonium* is much more  
acute than in perfect pectorilognism, &  
accompanying by the peculiar sound which must  
always distinguish it from every other pheno-

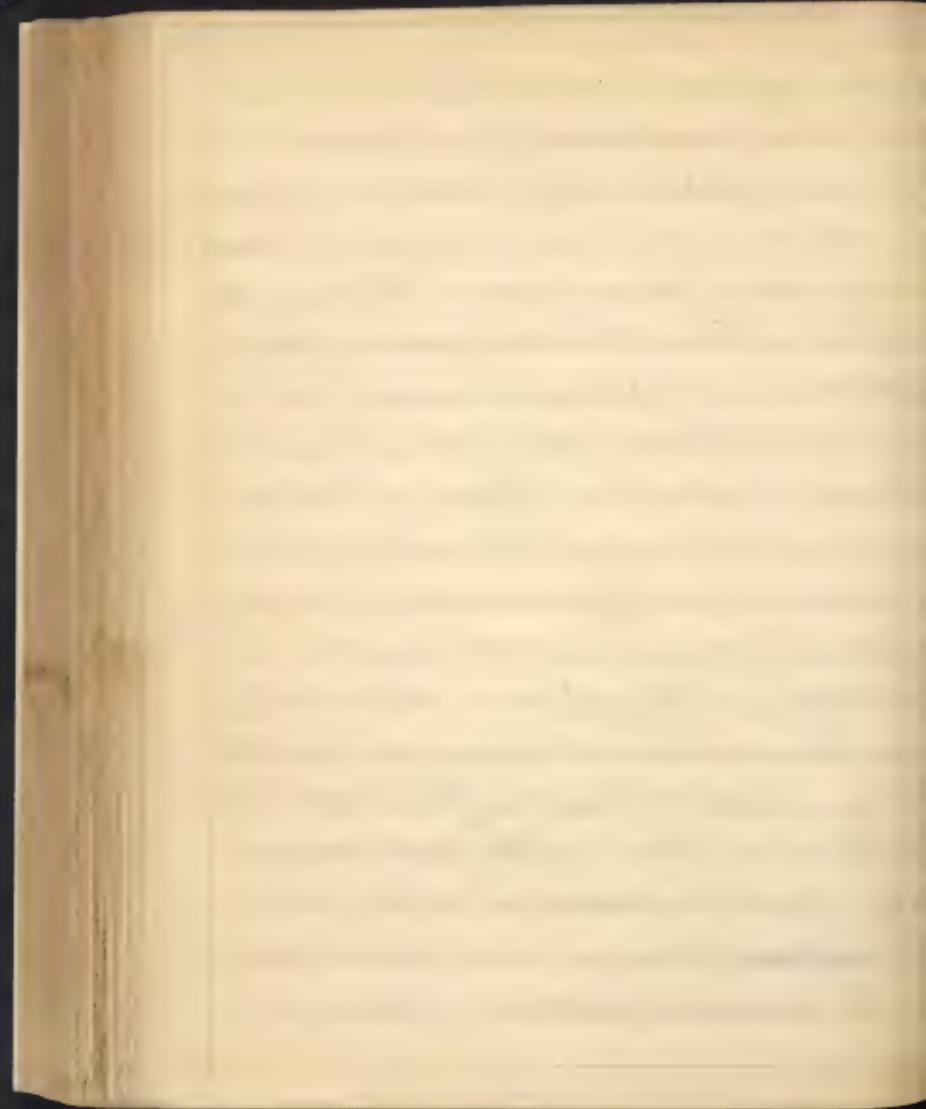


menon attending the use of these, however. It  
may also be observed, that hoarseness  
which has not been produced, nor prolonged, so  
as to present itself in pleurisy, attend with a  
pretty copious effusion into the pleura, or  
at least, about the thoracic parieties. The  
aphonia differs from pectorilognism also in  
being extended over nearly the whole of one side,  
whereas, the other seldom occupies a space  
of two inches square.

3. Metallic Tinkling. In tuberculous  
necroses and pneumonia of thorax, if the stethoscope be applied, we often hear a sound  
unlike from the chest quite different from  
any we have yet noticed, which is pathogno-  
monie of these diseases, at least, it is one  
of the most prominent symptoms. The best

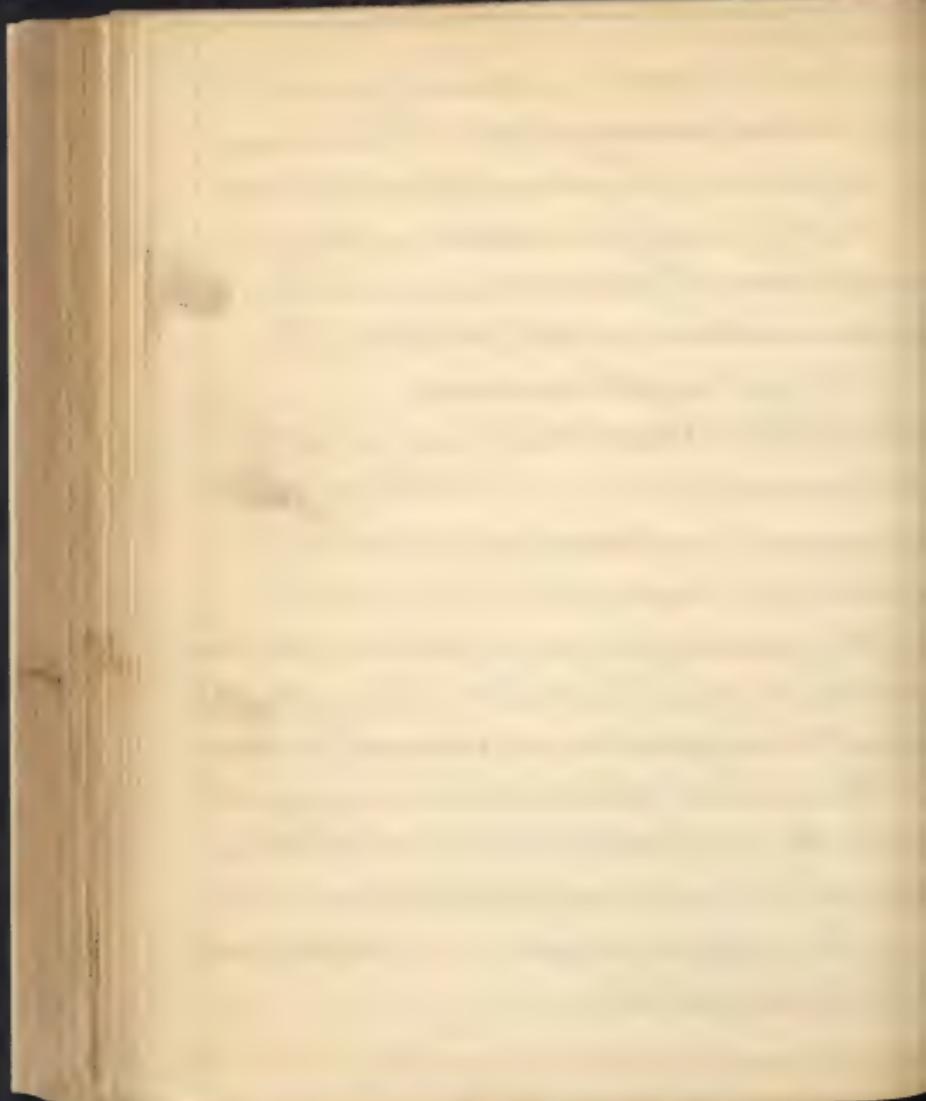


idea which we can form of what has been so  
properly, though inelegantly, called metallic  
tinkling, is to strike a cup by metal, or glass, with  
the head of a common iron, or let fall into a small  
flat cup, a large grain of sand. It may ex-  
ist with or without a pectoralgia, though  
it most commonly accompanies it; it arises  
from tuberculous ravages in the substance  
of the lungs. Respiration, speaking and cough-  
ing do not obstruct at all the metallic tink-  
ling; indeed, it is often desirable to cause  
the patient to cough in order to make the  
intercostal metallique more obvious. There  
are some peculiarities attending the metallic  
tinkling in cases of pneumo-thorax complica-  
ted with emphysema of the parts commu-  
nicating with the bronchial tubes, which  
will be noticed when we treat of that dis-  
ease. The metallic tinkling of pneumonia



thorax may be distinguished from that of tuberculous excavations by its being more intense. The quantity of tuberculous matter in a pulmonary abscess may also vary, the intensity of clicking being diminished in proportion to the quantity of matter present.

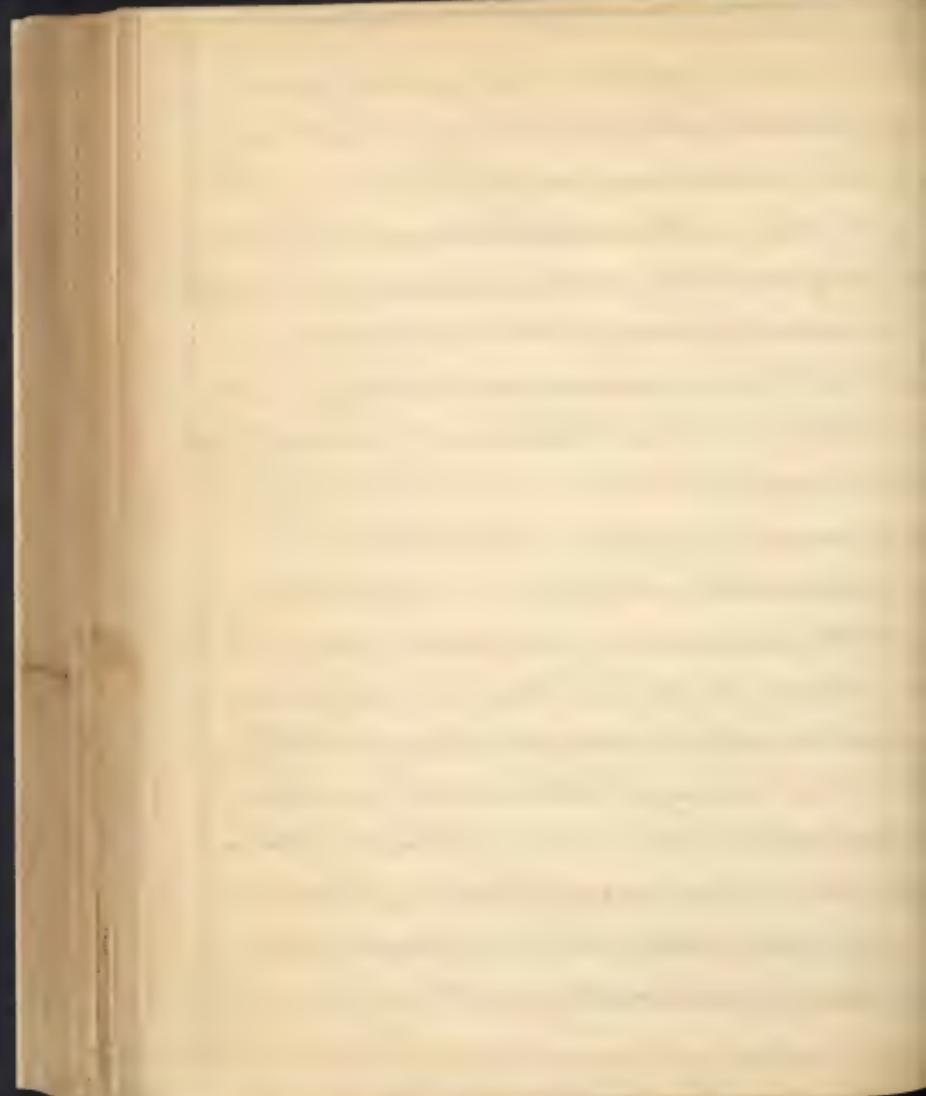
4. Rattle. The various kinds of rattle which are audible even on the stethoscope, tend to produce some confusion, and are certainly more difficult to be understood by the tyro, than any of the preceding diseased phenomena. I think it probable, though I have but little experience to support the supposition, that science has made the rattle more complicated than necessary; the different kinds of rattle which we shall see are, the humid or catarrhal, the mucous or coughing, the dry sibilant and the dry sibilous or hissing, rattle.



1. The humid or expectorous. This, generally speaking, is only present in the first stage of peripneumony, and has been considered as pathognomonic of that state of the disease. This rattle resembles the expectoration of sputum when suddenly heated, or the crackling sound emitted (if I may be allowed the expression) which is emitted by compressing the lung of a recently slain animal between the hands, though the sound under the instrument is much stronger.

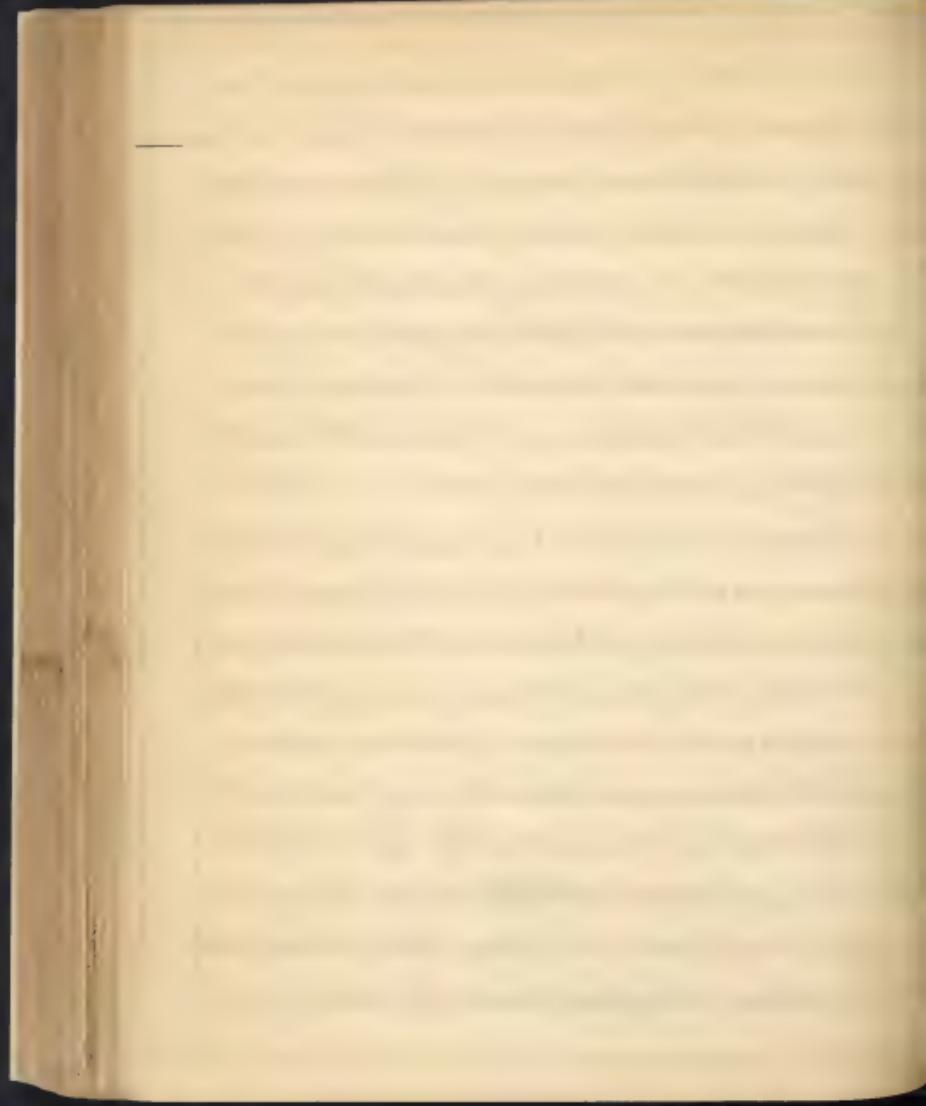
2. The mucous or gurgling. The rattle thus called, is observable when there is a pulmonary catarrh conjoined with peripneumony; or in any case of expectoration of a viscid mucous sputum which may, for a time partially obstruct the bronchial tubes, or the trachea.

3. Dry sonorous. The character of the dry sonorous rattle varies considerably, having the sound more or less deep, often very loud, resembling a person in a profound sleep, or the bass note of



musical instrument, or "the cooing of a wood-pigeon". This last is so mentioned so strikingly, that A. Lassere says the physician can hardly conceive that there is not one of those birds concealed under the patient's bed-clothing. The most common note of the dry, sonorous rattle, is an indrawn, piston-like & dilated bronchia.

The dry, sibilous or hissing, like the three species of rattle, is very much varied in its character. Sometimes it is like a prolonged whisper of various intonations; at others, cut short and emitting chirps like a small bird; sometimes, it resembles the separation of two oil-stones; and again, we hear a sound resembling the opening and shutting of a small valve. A noise is occasionally heard like the bursting of soap bubbles, when the cylinder is fixed oblique, the large bronchial tubes or the trachea. The four kinds of rattle give

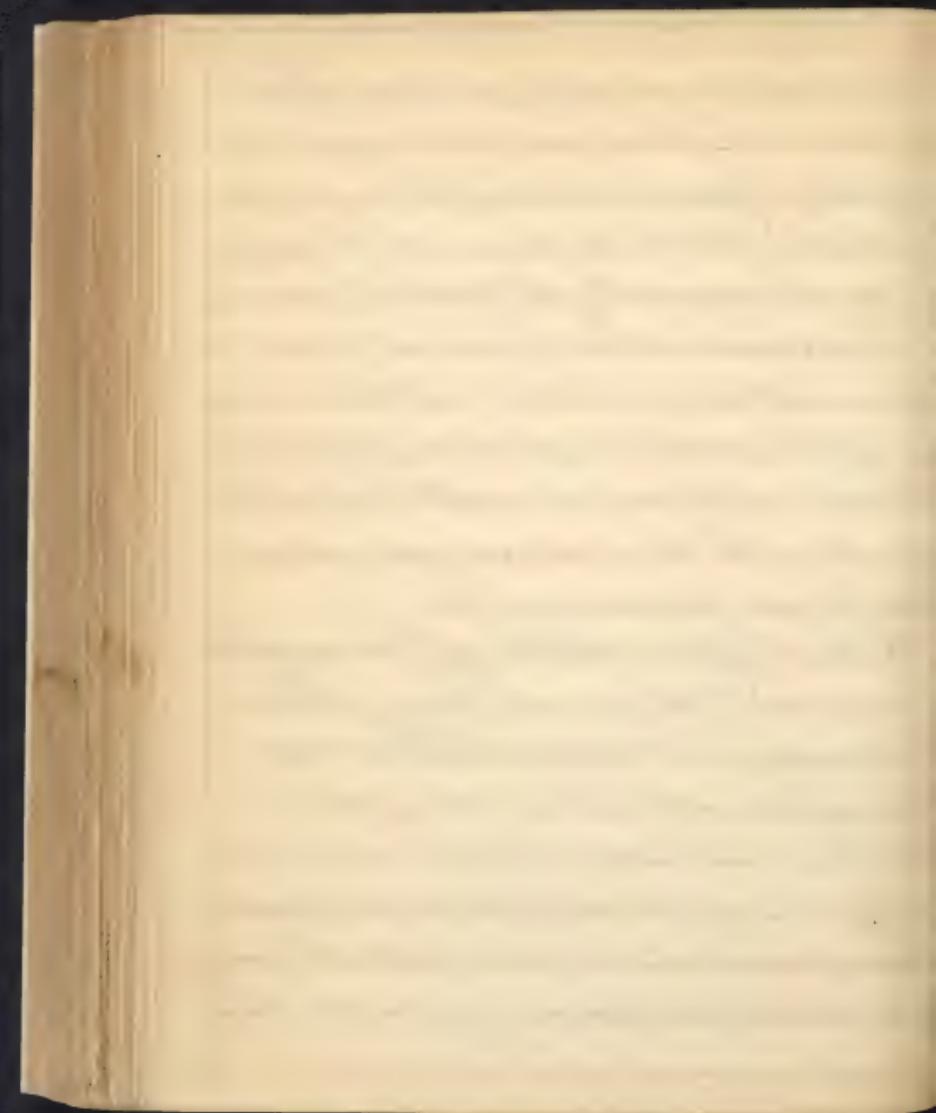


as a better assurance of the existence of pulmonary catarrh than any other symptoms possibly afford, for all the other symptoms are fallacious, but it is presumption, the different rattles, especially, the two last, however.

This finishes what I have, at present, to say of auscultation, which, it will be remembered, is the second head of my dissertation. What remains to be said of auscultation, will be considered in the third division, an account of which, I now proceed to give.

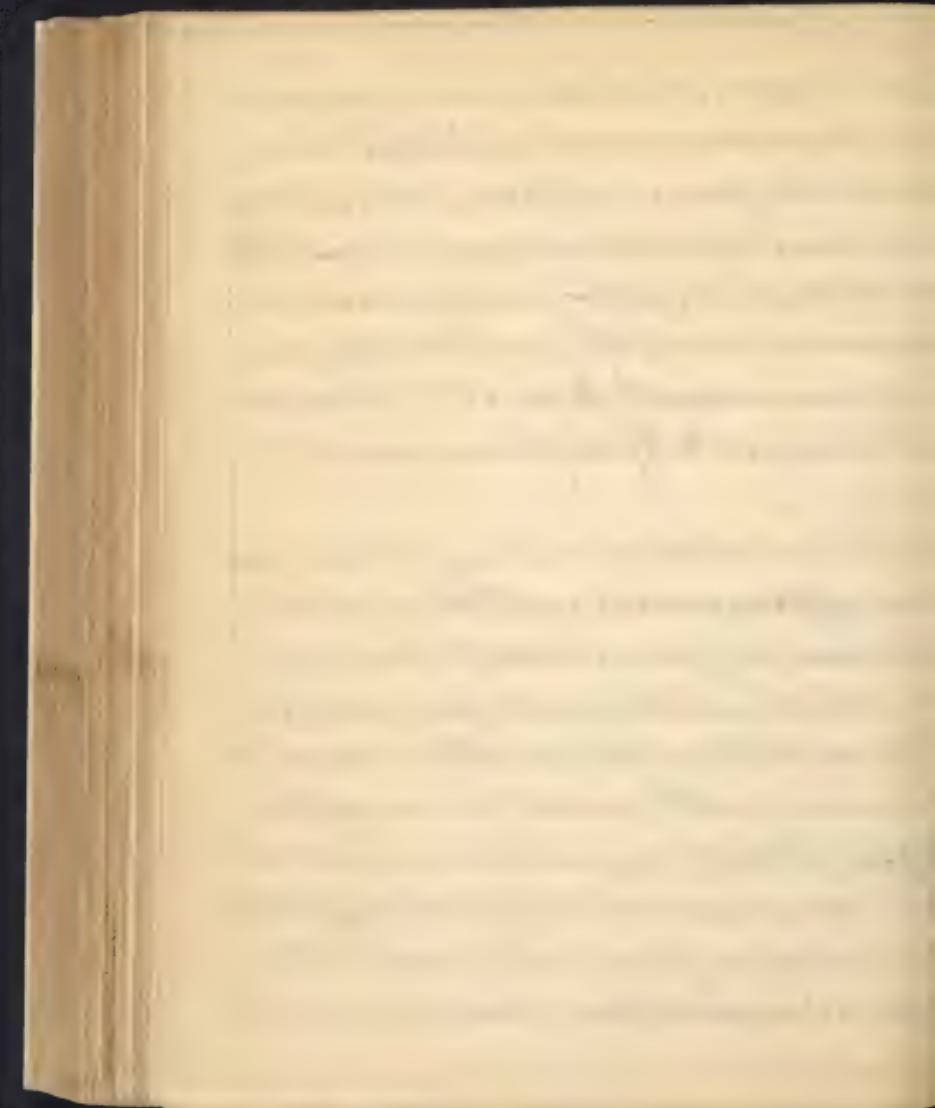
### 3d. Of the Application of Perception and Auscultation as Diagnostical Signs in the Diseases of the Thorax.

In speaking of the application of perception and auscultation, I shall merely notice a detail just in which the importance of the subject demands, for I have already entered further into the discussion of some of the foregoing particulars than



1<sup>st</sup> first intended. I shall now, taking into consideration the copious manner in which I have treated the two former diseases, restrict my task as much as propriety will permit. The diseases of the chest will be arranged according to the organs in which they are located; and these appear evidently to be 1<sup>st</sup> of the diseases of the lungs, 2<sup>d</sup> of the pleura, and 3<sup>rd</sup> of the heart.

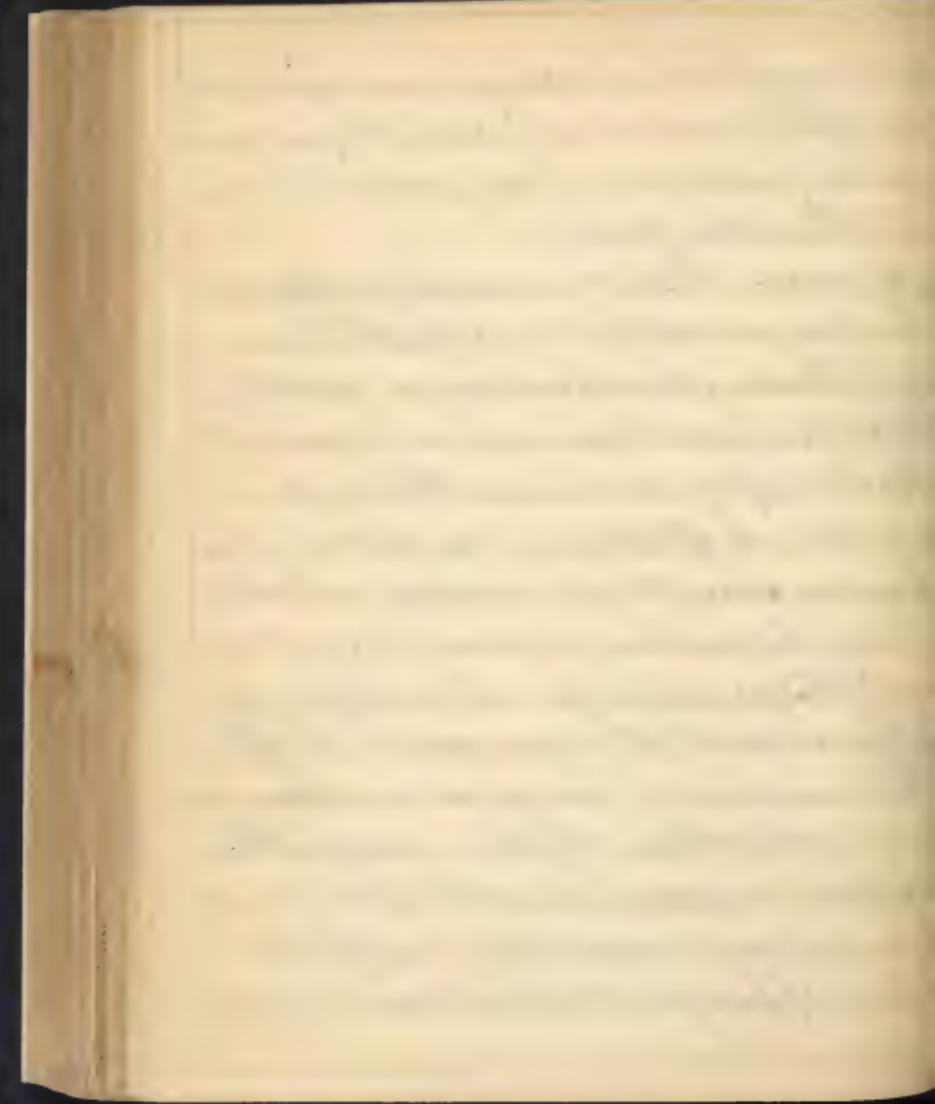
1<sup>st</sup> Of the diseases of the lungs. Every one who is at all conversant with the diseases of the pulmonary apparatus must be immediately struck with the great frequency and fatality of phthisis pulmonalis; indeed, it has been very justly said to be one of the affroboria medicorum, when we reflect that of the immense number of persons afflicted with it, very few, if any, ever recover. Who engaged in an extensive practice has not



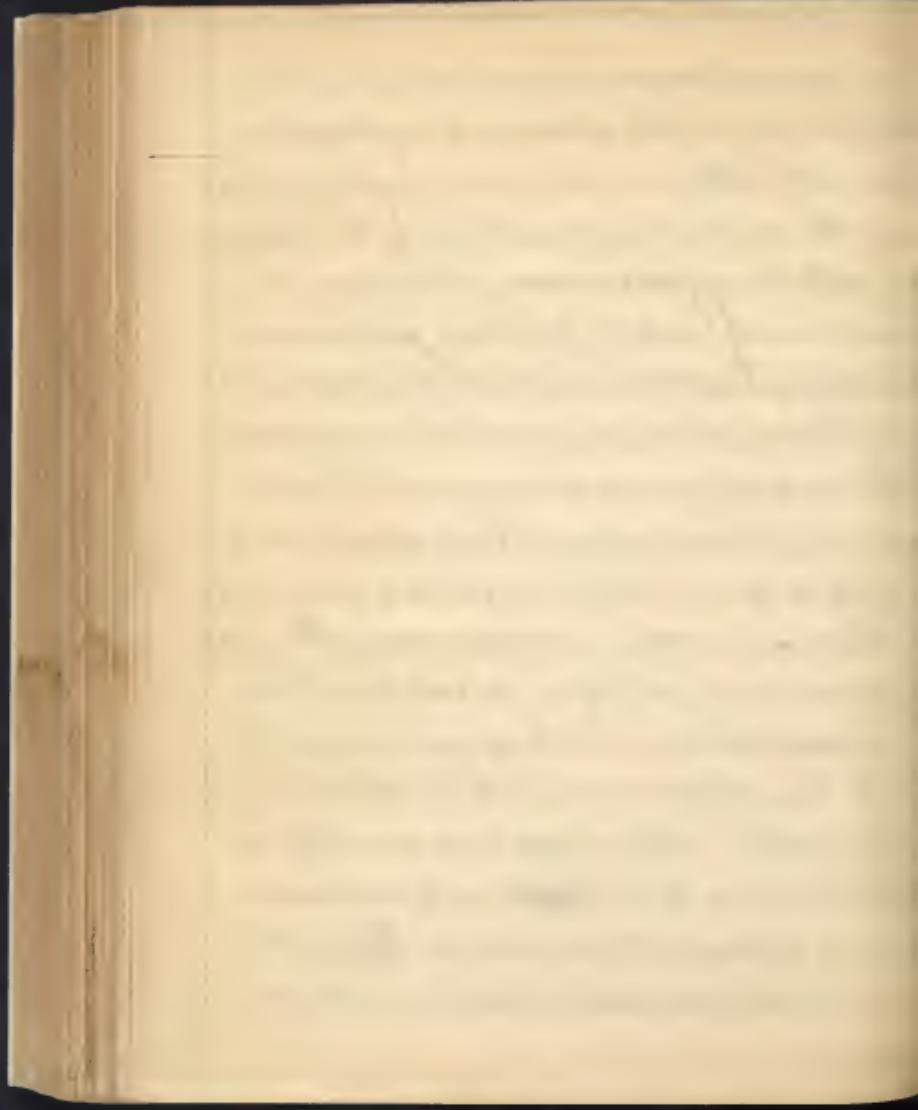
often lamented the unhappy and inevitable  
 doom of the person who is gradually, but un-  
 perceptively wasting away, day by day, under this in-  
 insatiable distemper.

— And down he sinks amid the pitiless drift  
 Thinking o'er all the bitterness of death. Thompson.

Notwithstanding the acknowledged fatality of  
 phthisis pulmonalis, we may now, since the  
 application of mediate auscultation, begin  
 to entertain the flattering hope, that it yet is  
 to be more correctly understood, and that  
 we may be enabled to prescribe for it in  
 its early stages, with as much certainty of  
 relief as in most other diseases which afflict  
 the human family. Though we are so sanguine  
 in our expectations of future good, neither  
 foreknow or mediate auscultation, except  
 affords always indications of incipient  
 phthisis. If sufficient tubercles are congrega-

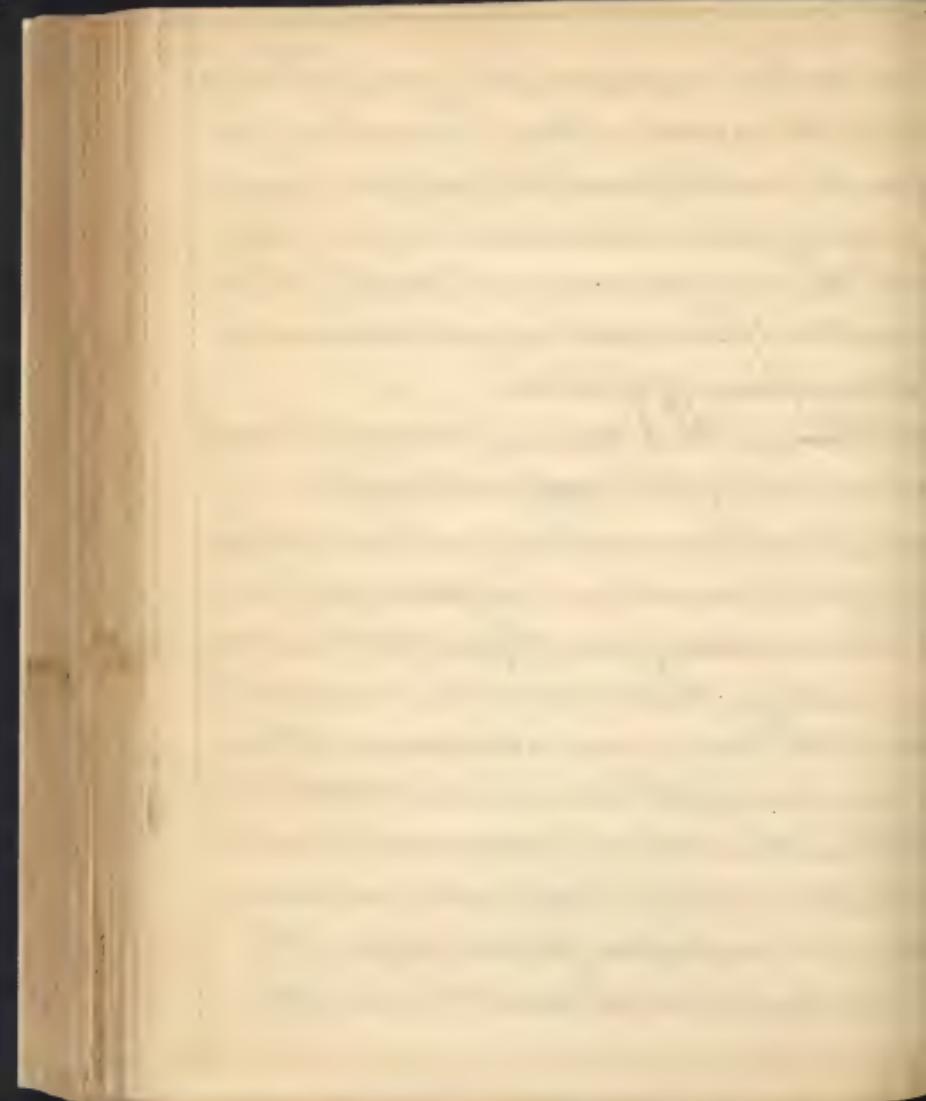


ed, their perception by the dull sound, and  
the stethoscope, by the absence of respiration,  
together with other combined symptoms, af-  
ford us the clearest indications of the danger  
which is to be apprehended. Should we be so  
fortunate as to detect phthisis pulmonalis  
in this stage, I entertain not the least doubt,  
we may, to say the least, avert the impending  
tomorrows, and even years: but un-  
fortunately, the complaint is so insidious  
and hope so long sustains the sinking suf-  
fer, that our advice is never sought until  
an excavation has taken place, together  
with expectoration, hectic fever, and other  
formidable appearances. After these sym-  
ptoms supervene, all we can reasonably ex-  
pect to do, is, to palliate and moderate  
according to present exigencies. If pectoril-  
ication exists on the application of the ex-

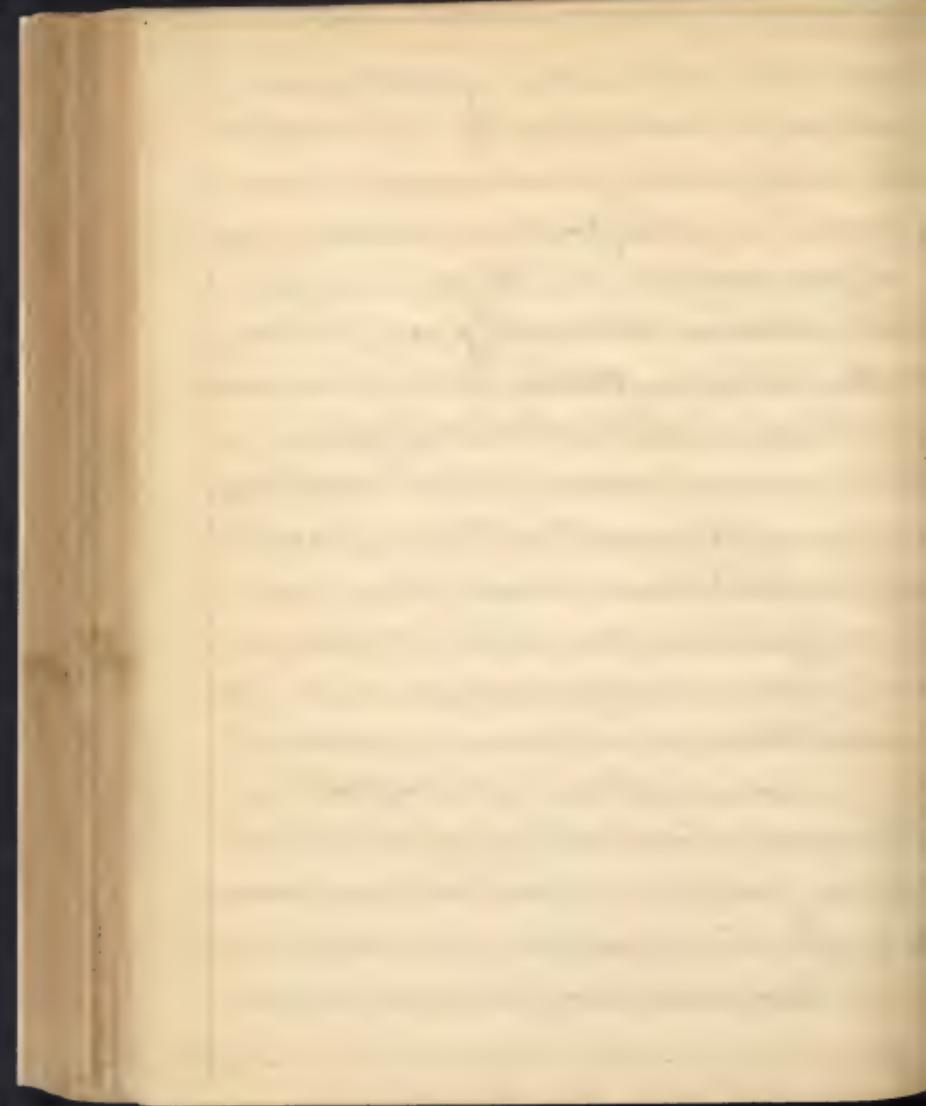


linder, we have no reasonable grounds to hope  
for ultimate recovery, though we should pro-  
ceed on the same principles as if we had, for  
by so doing, we moderate the violence and  
smooth the rugged avenues of death, which  
is a matter of no small importance in the  
practice of our profession.

Although the superior lobes are the most  
common seat of tuberculous abscesses, we  
must not confine our examinations to them  
alone, for it sometimes happens, as I have  
seen on one occasion myself, in post-mortem  
examination, that the abscess is near the  
spix of the lung; and as we said when  
talking of auscultation, we must not be  
content with a single examination, but  
repeat it until we have every rational  
reason to be satisfied, for sometimes the  
tubercle has not bursted into the bronchia,



and even when it has, this aperture may  
be temporarily obstructed by tuberculous  
matter, and pectoriloquism must, under  
the conduction of the parts, be absent or ex-  
tremely imperfect. M. Bayle in his work  
has fully demonstrated the fact, that cough,  
sputa, puriform sputa, hectic fever, ema-  
ciation, and in short, all the symptoms of  
this disease, arising merely from nervous af-  
fections, may be present, without the actual  
existence of the bone disease. We are not  
at this enlightened period to be deceived  
by such appearances, for perception and medi-  
cal auscultation always serve to guide us  
surely; and as a proof of this assertion,  
Dr Lanneau declares, out of nearly three  
hundred patients which he has exam-  
ined at the time of writing his ingenious  
book, he had never been deceived in a sin-



of instance. When the common symptoms of consumption are present and percussion yields a clear sound and respiration emits pathognomony, I fear we have to suppose the case hopeless.

Barophobia and the metallic tinting are often present and are to be observed in our examinations with the utmost attention, as they are sometimes, though rarely, the clearest of the stethoscopic indications developed. The mucous or gurgling rattle, is also, at times, to be heard when the communication between the excavation and bronchia are partially blocked up by pus or other thick matter. But these last have their existence often in other diseases and shall accordingly be commented upon in their appropriate places.

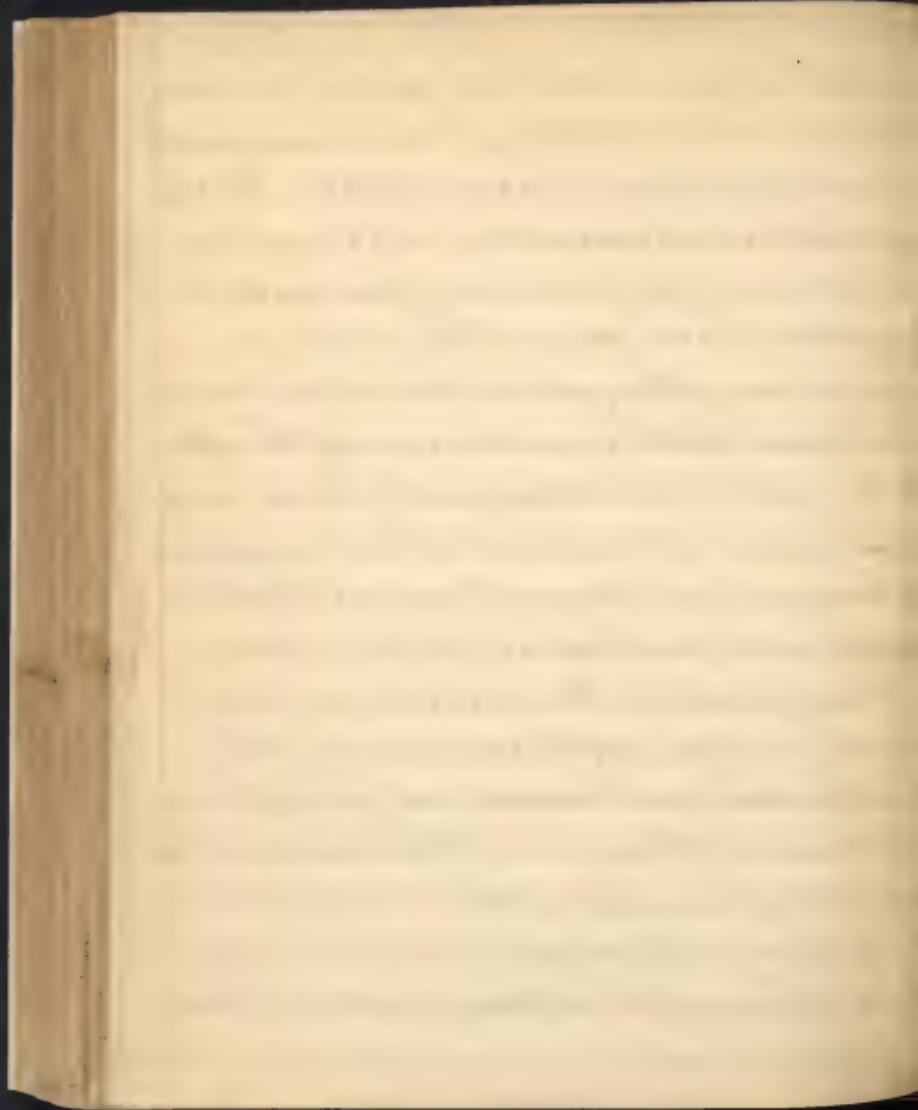
Scripnumony is characterized most

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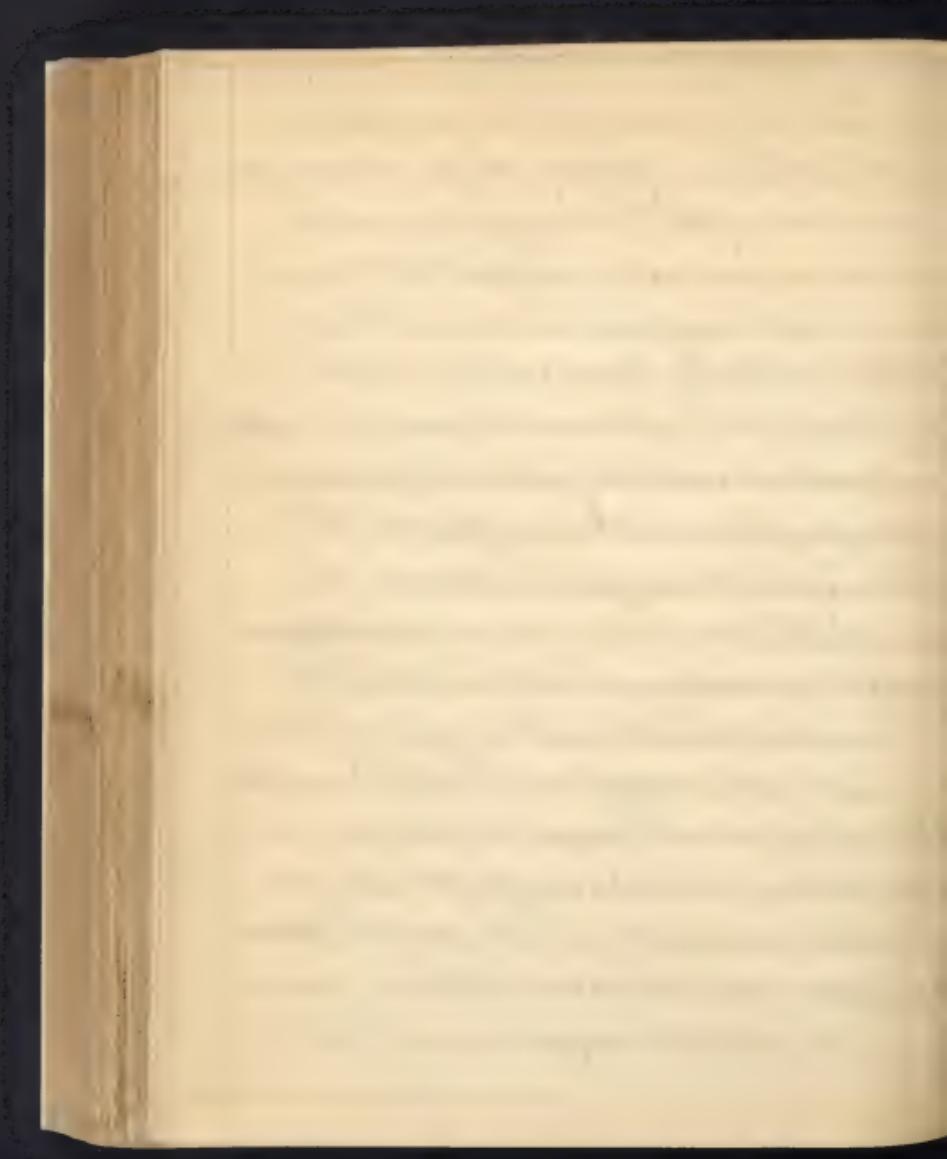
commonly by difficult respiration, deep seated pain  
in the affected side, full frequent pulse, white tongue,  
swelling up of veins and ill looking spula, and  
occasionally the urine deposits a sediment very  
much resembling that bloody kind which we  
read of what is called a fit of the gravel. But  
many of the above symptoms are sometimes ab-  
sent, and on other occasions, are so obscured as  
to render its diagnosis doubtful and perplexing.  
There is scarcely a practitioner of medicine who  
has not mistaken this disease for pleurisy;  
but happily for our patients the affections are  
located upon the same principles and by nearly  
the same remedies. So shewfully the difficulty  
of distinguishing the existence of peripneumony,  
when it is very even fever, the almost univer-  
sal concomitant of all inflammation affec-  
tions, is sometimes totally wanting after the  
first few days; and even the tenacious spula

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may become, towards the latter part of the disease,  
which is not to be thrown up and consequently  
the patient lost by its accumulation. Persis-  
tuation assists us now and then in chronic, as  
well as acute peripneumonia, and could it  
be applied in every case, we should have no  
need for any other means than the dull sound  
which is sent forth from the region of the affec-  
ted lung; but it also occasionally leaves us as  
much in the dark as the common symptoms  
do, because we are frequently not called to the  
patient until he is entirely too sore to bear  
such an operation. Now what are we to do  
when the chief part of the common symptoms  
are either absent or obscured and perception is  
unattainable? We are to resort to a resource, which  
fortunately, has, as far as observation extends,  
no objections to its employment—This expe-  
riment is the use of the stethoscope, which not only



informs us of the presence of the disorder, but  
otherwise indicates its precise stage and advance-  
ment towards a fatal or happy termination.  
Respiration is distinct in proportion to the ad-  
vancement of the inflammation and the respi-  
ratory rattle is plainly heard in the first stage of  
the complaint; but in the second and third sta-  
ges, respiration is entirely obstructed and the  
mucous gurgling rattle is apparent. It is  
easy to imagine percussion and most other  
means so illusive as to induce us to suppose  
our patient recovering, whilst the stethoscope  
informs us that the alleviation of symptoms  
is only an insidious pause, the inflammation  
still marching on with rapid strides till a  
sudden change breaks in upon our sanguine  
expectations, and death, which so often follows  
slaps, soon closes the scene. Nothing can de-  
ceive us when the stethoscope is employed, for



the signs afford by it are inevitable, and let  
appearances be ever so flattering, we know when  
danger is approaching and are prepared for  
the issue. When the inflammation is subsiding,  
the respiration is obvious first in the superior  
lobe of the lung affected, and it gradually  
enlarges as the inflammation is subdued.  
There is no instance of the disease under consider-  
ation, in which percussion can be used, that  
will prohibit mediate auscultation; but the  
cylinder, I think, I have clearly shown, will  
serve us when every other means shall have  
failed.

One of the most frequent and not least  
dangerous maladies to which we are daily ex-  
posed, is pulmonary catarrh. I shall, of course,  
omit no detail of the history, symptoms,  
and cure, but shall content myself with ob-  
serving that the symptoms are frequent,

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7

follacious, if we do not resort to immediate auscultation, aided by perusion. Besides the common indication of the presence of pulmonary rattle, which, generally, are obvious enough, before species of rattle described in our second division, afford very correct, and I might venture to affirm, almost infallible indications. Either the crepitans, the mucous gurgling, huffing sonorous, or the hissing rattle are prevalent from the commencement to the termination, and these are modified according to circumstances and the actual state of the disease; the two former generally presenting themselves in the commencement, and one, & both of the latter, in its termination, though these have modifications which it will be impossible to notice on the present occasion. At the onset, when the cough &c are so very slight as hardly to excite the attention of

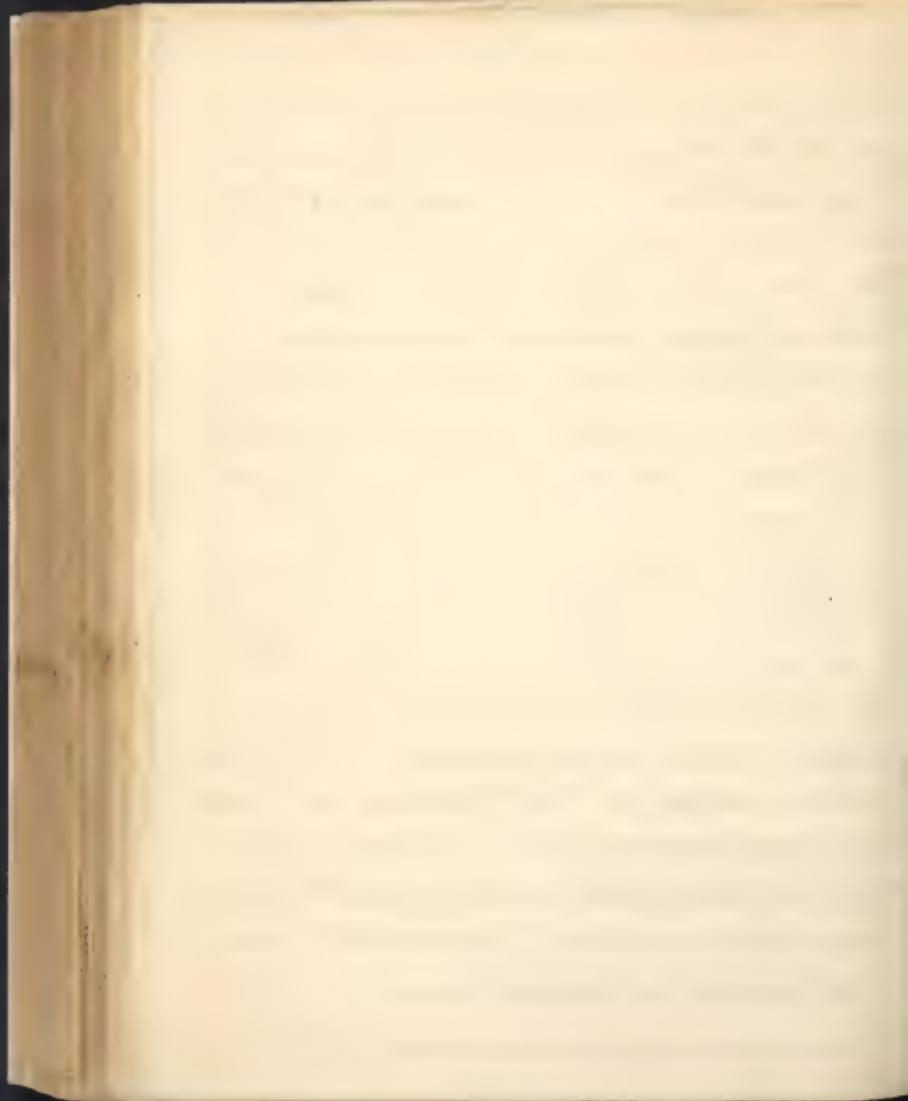


whether physician or patient, the rattle is very  
loud under the cylinder, and if we should  
have been prudent enough to make an exam-  
ination, we may proceed immediately with  
our remedies, and often not only save the pa-  
tient from the acute pain, but in all probability  
preserve his life. The symptoms under the stetho-  
scope, in chronic catarrh, do not vary greatly,  
so far as I know, from those of the acute  
disease, except, that the phenomena are not  
quite so clear, and there is sometimes present  
the paroxysmal respiration, which exactly resem-  
bles that emitted from the thorax of a child,  
its name implies. It is this chronic state  
of catarrh which has been so often confounded  
with asthma by some learned physicians, as  
well as by the vulgar, both mistaking the at-  
tendant dyspnoea for that disease.

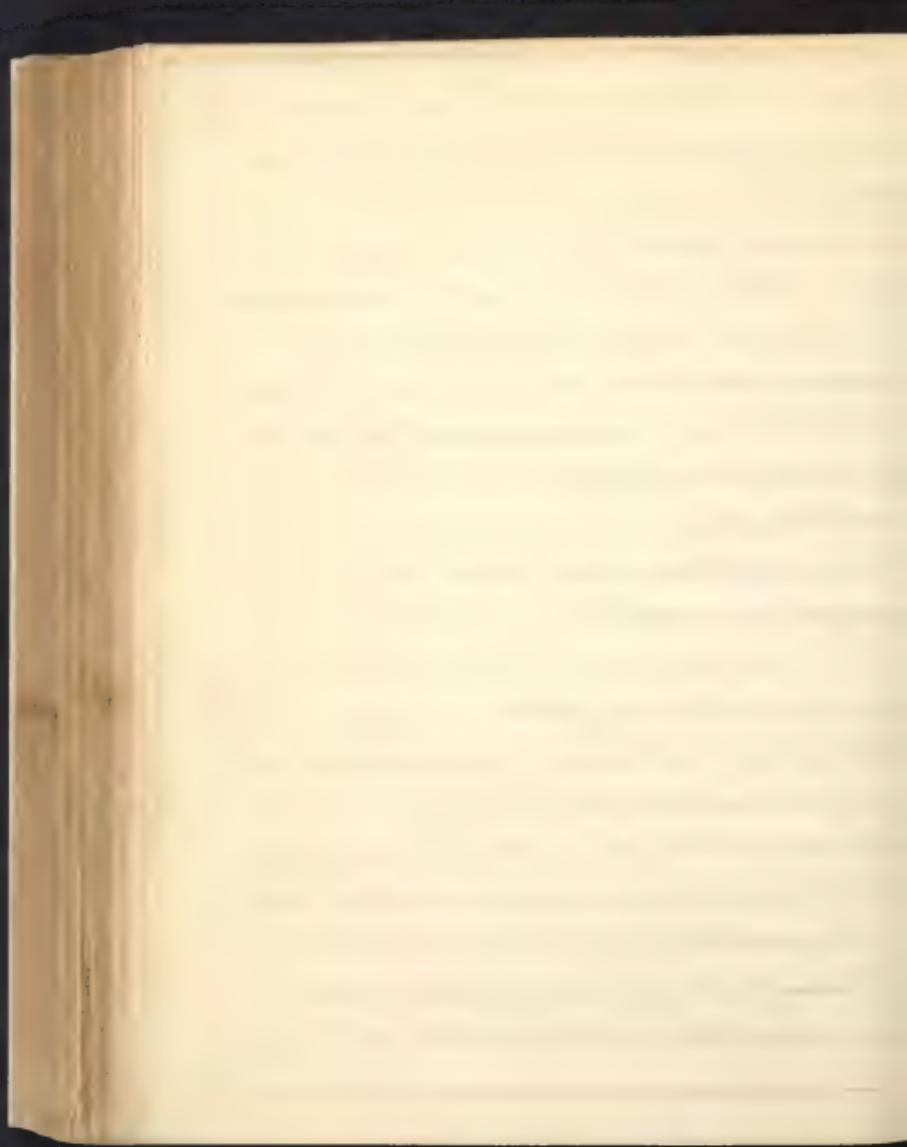
The respiration of those labouring

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under emphysema of the lungs is a pale and the dyspnoea comes on in paroxysms, like those for asthma. It is unaccompanied by any fever and the pulse is said to be rather regular. As the disease advances the lips become discoloured, whilst the skin is occasionally tinged with spots of a pale indigo blue. Mr. Sawyer, in all the cases he has seen, there was a slight degree of habitual cough, with a slight increase on exertion. The side in which the disease is located is commonly enlarged, as may be ascertained by oblique measurement, the chest, neck back also, being considerably rounded. The pathognomonic sign of this disease is furnished by a comparison of the indications derived from perception and auscultation. The respiratory murmur is inaudible over the greater part of the chest, and is very



fetid in the part; where it is audible, at the same time, a very distinct sound is produced by percusion? The sibilous or hissing rattle is occasionally heard to exist in a slight degree in the affected part. The circumstance of hoarseness being more audible than in a sound condition, added to, of respirations being inaudible, is sufficient to distinguish Emphysema from any other affection of the lung, except that of a pure pneumo-thorax. In addition to the above, I can perceive no assumption has already been made sufficient to separate, and I shall when I treat of pneumo-thorax, draw the line of distinction between it and emphysema. Why the respiratory murmur should be absent in a disease, in a sick, there is such a quantity of air in the lungs, always there be compression of the air-cells, I can't imagine, and I think M. Savary has solicited

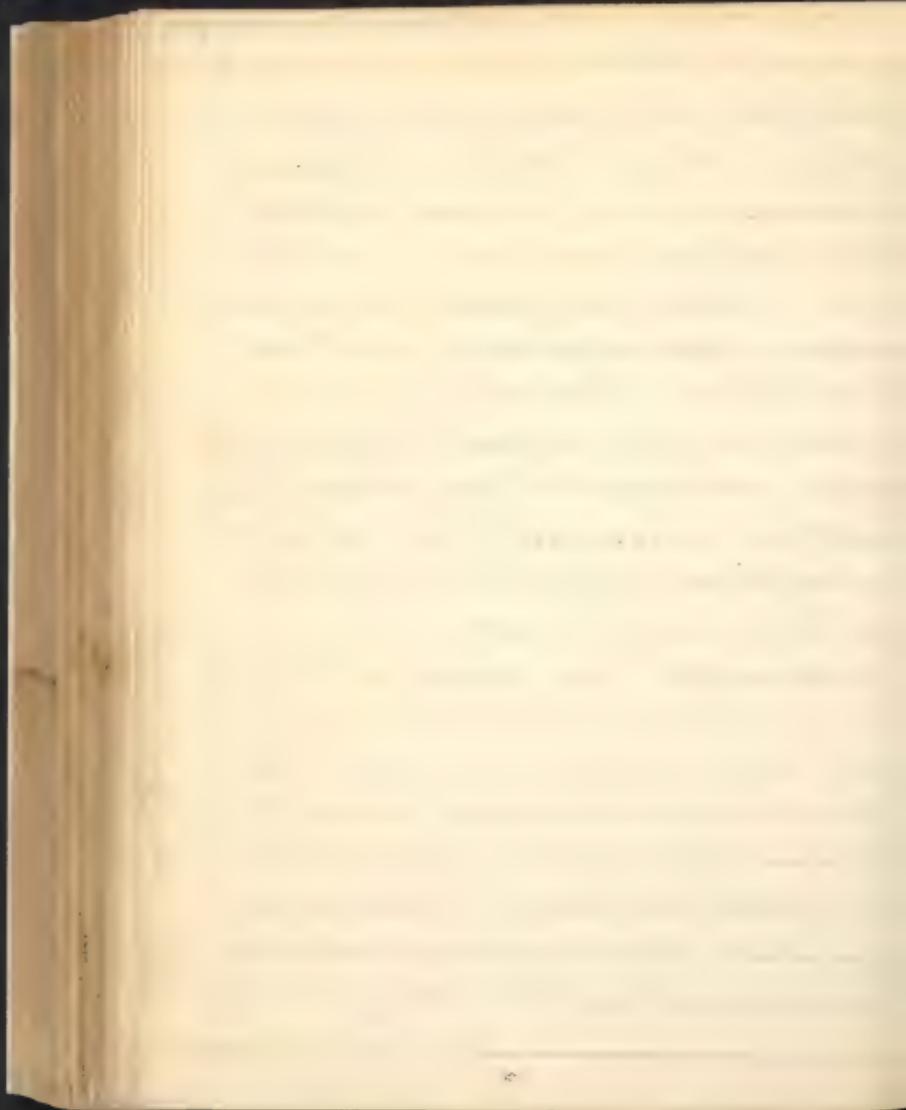


to advance satisfactory reasons for the phenomena. I shall next take up the diseases of the pleura.

2<sup>nd</sup> Dg. the diseases of the Tho... No disease of the thorax is more easily recognised than pleurisy, of which, I shall now make a few observations & marks. These symptoms, generally, are prominent, and of the most forcible, obvious to every one — What indeed would a pleuris than the dry cough, peculiar glazing stare, & spate, and the stitch in the side mentioned know; and which is always present in the acute, though now and then absent, in cases of a chronic disease? Notable, very other affection of the chest more absolutely requires the use of an emetic and cathartic but that can, than the former, distinguish him from closely allied complaints. Though stitching may not always require the use of the means of a bals I have just spoken,



nevertheless, they have greatly to strengthen  
 and confirm other impressions, and of course,  
 our opinions; therefore, he is culpable who  
 neglects these marks, when they are within  
 his reach. As soon as effusion takes place,  
 perception yields an extremely dull no-  
 tance over its site. But this happens in  
 proportionality, and were we to depend upon  
 perception alone, probably, we should for  
 the most part, confound the two; the dif-  
 ference of the objects, together with their  
 preceding signs, would soon determine  
 our judgment. Very truly, it is only  
 in cases of the above, that also indicated  
 by me, "that they are dead men," he  
 ought to feel the sick effects that are, "the  
 total absence of all sensibility of the re-  
 sidual members;" and the appearance and  
 disappearance of a phantasm, which is to be  
 believed, if not at least probable.



which, called by the name of the  
spoon, of which we have already spoken  
will, like the peritonium, the sharp  
surface of the rectal mucous membrane is  
soft & wrinkled to the touch, it is almost  
entirely covered by a thin skin being alone  
established if the lumen be not too  
large or too small, for either of these  
extremes will diminish it. We shall therefore  
say, we not only recognize the presence of  
it in a body we are enabled to know the  
infinity of its intricate and convolute. An  
affection demands the utmost attention,  
not from the circumstance & size of its be-  
ing, a very diversity, but from what is  
much preferable, its utility in the inves-  
tigation of a disease, which has from the  
earliest ages been known to be of  
no small degree of great fatality.

They, however, as seldom having pathic

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Affection, but is the consequence of either disease,  
such for example, as is liable in some  
of the cavities of the heart, supplication of some  
of its valves, or in pericarditis, &c. &c. In my  
respiration is generally impeded, espe-  
cially while lying in an horizontal pos-  
ture; the whole affect is drapical, and per-  
spiration brings forth a 'mucilous' excretion.  
The thermometer indicates a degree of heat moderate  
if the case has great the more, &c. I have  
part of the pulmonary circulation exceed 1.000 ml.  
near the root of the lungs. It has been said  
that a fever of the degree just named  
is to be considered as being a severe  
disease, however, it is not so in this case  
as you will see with the cause of  
affection, placed before you, & you will then  
see that there is no such thing as the degree of  
heat, a very moderate one. At the  
same time before last, it was as high as

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well as my memory serves me to the  
existing physician if a collection of  
water really existed - Dr Park on whose  
skill with these stethoscopes perception &c  
is well known made an examination  
pronounced water to be present; - and Dr  
Wilson performed the operation of par-  
acentesis thoracis, which he completely re-  
lieved the man for the time though he  
died a few months after another disease  
of the thorax. If I had never known  
of any other instance, than Dr. Park's case of  
the utility of auscultation &c I should  
consider it alone as sufficient to recom-  
mend the constant use of these means of  
diagnosis, as well as the serious and at-  
tentive study of their phenomena.

The last disease under the present see-  
ction which I shall notice is pneumonia.



rise or effusion of gas into the cavity of the  
pneum. The odour of this gas is most fre-  
quently extremely offensive, closely resem-  
bling sulphuretted hydrogen, and indeed,  
to the olfactory organ, there is not, in slight-  
est shade of difference. From the quantity  
of gas disengaged in the sack of the lumen  
and the enormous distension of the thorac-  
ic tract, which sometimes takes  
place, we can readily conceive how re-  
ceptive perception by itself would be;  
for the sound, of course, must necessarily  
arouse it not more, than in a sim-  
ilar state of the body. A certain di-  
agnosis of the complaint is afforded by a  
diligent and careful examination of the  
history of creation and medical cul-  
tivation. Wherever we perceive the  
use of the nostril to be, and where sufficiency,

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worse so than the other, and at the same time find respiration clear on the least sonorous side," and not at all on the other— we may be assured that there exists pneumonia thoracis on the latter." We now be equally aware of our diagnosis when both sides are alike sonorous, although the diseased, one may occasionally be much less than the sound side. This last however where pneumonia thoracis subserves to bleuise the effusion, and only, so far as I am informed, in these cases, for before the absorption of pneumonia thoracis, the affected side yields a jarrer, i will say not, and the respiration is very irregular;—as soon as the gas begins to accumulate the respiration under the tube becomes more and more impeded, until it transcends that of a perfectly healthy state. So one



not accustomed to see much of pneumo-  
thorax and am not now at the lungs & the  
two affection's resemble each other greatly;  
how I distinguish one from the other is so little  
now & once that none but a very inti-  
mate observer could be mistaken. he  
difference between the two is so clearly &  
distinctly marked out by time, that I  
shall content myself by transcribing  
his observations. In pneumonia there is the  
absence of the respiratory sound & com-  
plete, except at the point between the  
scapula and spine corresponding to  
the root of the wings; in emphysema  
the respiration sound is never com-  
plete; in the latter, there is a  
slight rattle, and never in the form  
of pneumonia thorax comes on rapidly  
and cannot continue long without



giving rise to dangerous symptoms, or even proving fatal; emphysema comes on slowly, and is never so severe as to confine the patient to bed, or incapacitate him from his ordinary occupation. I never saw a patient with pneumo-thorax that was not in bed".

While upon phthisis pulmonalis, I spoke of the metallic tinkling as being one of the phenomena of that affection; but it is in the disease now under consideration, we most frequently meet with it. The tinkling of pneumothorax may be distinguished from that of phthisis by its being confined in the latter to the circumscribed space of a tuberculous excavation whilst in the former, it can be heard over a widely extended space, even, in some cases, from the diaphragm to the



utmost boundary of the chest. The median trachea is a very constant attendant of pulmonary tuberculosis, whereas it has never been observed more than four times by St. Lawrence, in tuberculous excavations when he published his valuable treatise. It will not be amiss to observe in this place, that the Hippocratic suspicion not unfrequently produces a sensation of fluctuation, when there exists either purulent or serous effusion, which is felt by the patient and is evident to the physician.

3<sup>rd</sup> Of the Diseases of the Heart. The heart is one of those important organs, without which, we are unable to exist for a moment, and the diseases of which must needs be extremely fatal, when sufficiently violent to produce lesion or in-



terial alteration of structure. It may be advanced in support of the fatality of these diseases, that we are immediately struck with the mortality of the maladies recorded in A. Corvisart's work on the heart. The heart being the centre of the circulating fluids, and possibly, of volatility also (if it has a valve,) must continue to be looked upon as one of the primary objects of our care. Though the importance of this viscus has been appreciated by enlightened physiologists since the time of the great Harvey, yet, its disorders were not correctly understood, until Corvisart, by his patient diligence and sagacious perception, elucidated them by accurate dissections, observations, and deductions. But still much remains to be done; for though upon superior, the pulse dysmenia, and the other

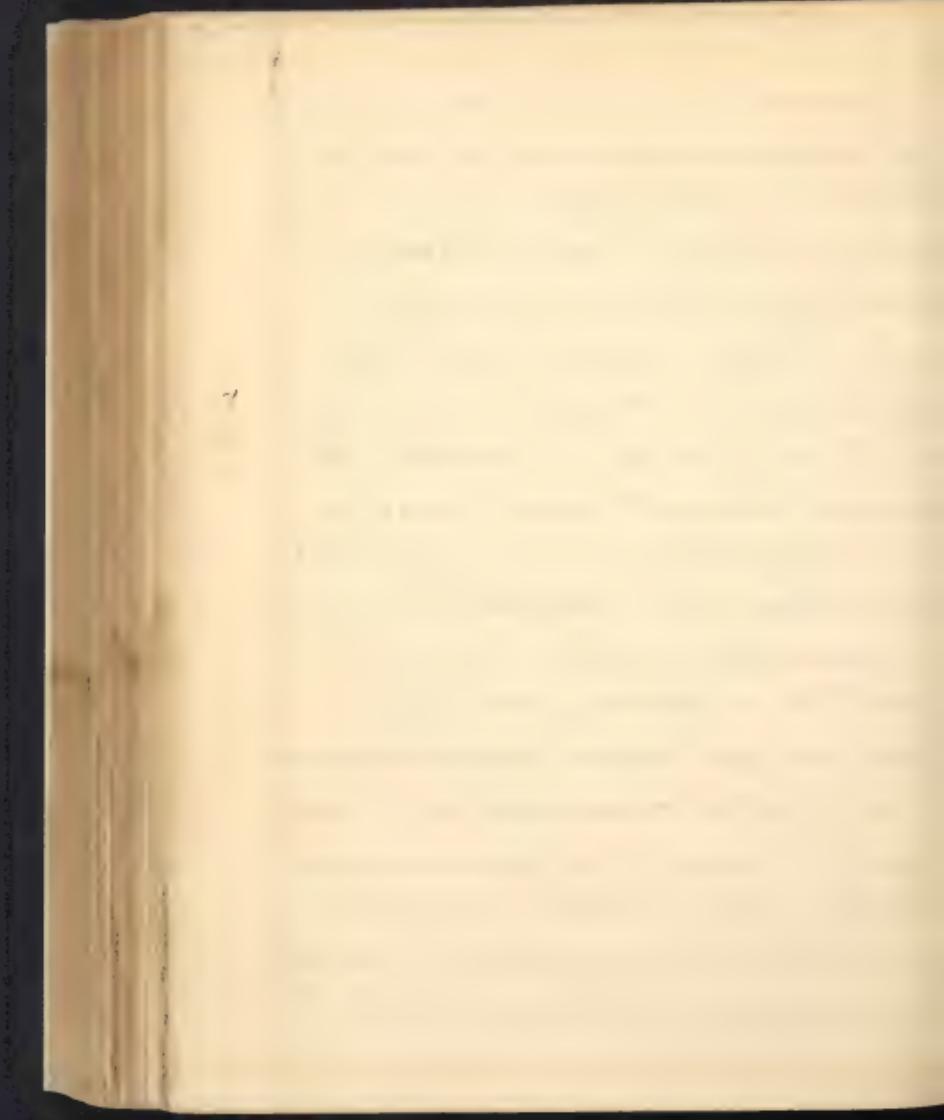


diagnosis of the patient, most generally manifested diseased heart; they could not always, or even for the most part, indicate the precise kind of affection, or its location. It was not till after the year 1816, at which period Dr. Launce applied mediate auscultation to many affections of the chest, that the heart's action was correctly understood when in a diseased condition. The extent and irregularity of the important disease's action, even at present, is correctly understood by the aid of the stethoscope. I shall now proceed to make a few cursory remarks on some of the most important diseases of the heart and then conclude.

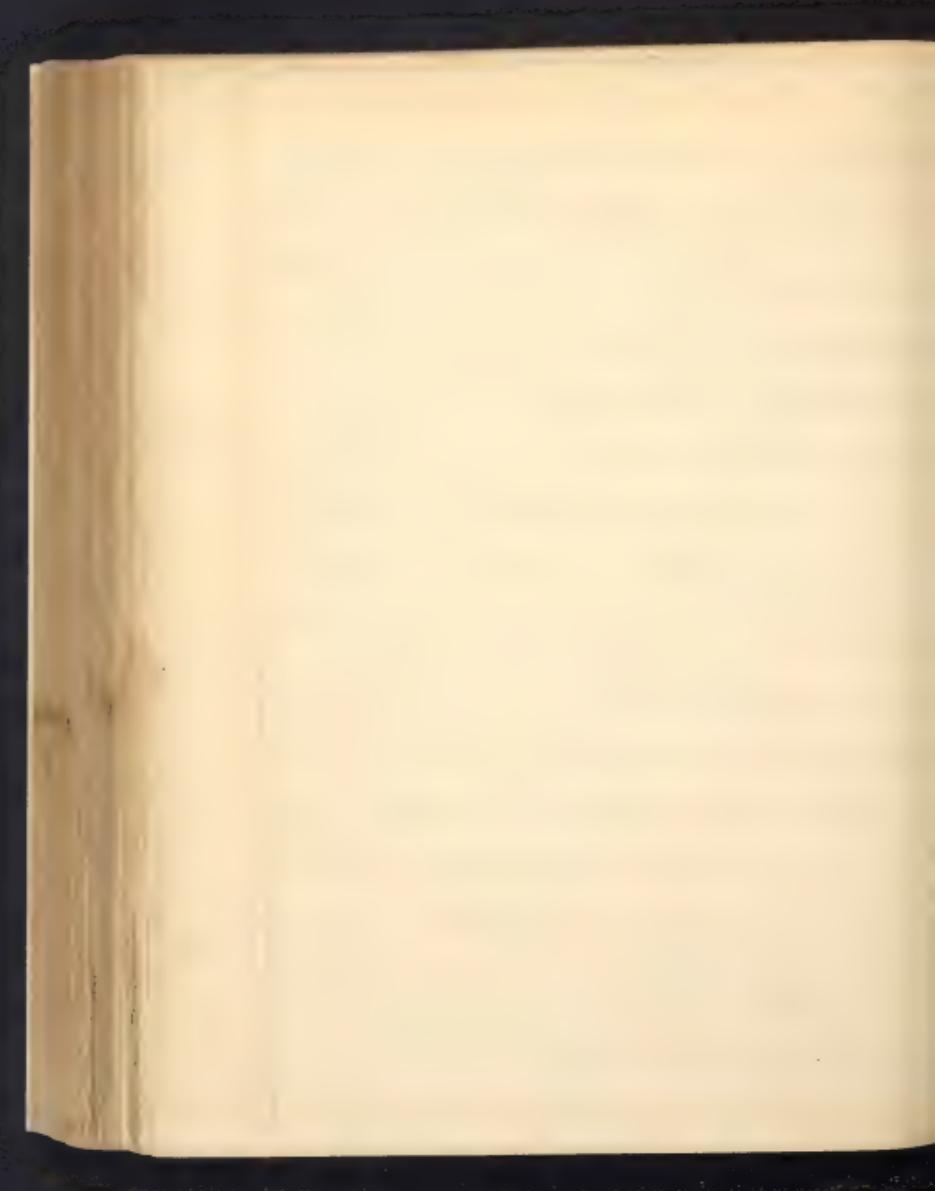
By hypertrophy, according to Dr. Launce, is simply meant, an increase of the muscular substance of the heart, with-



out a proportionate dilatation of its cavity, or there may be even a diminution of the m. He affirms, that this disease has escaped the notice of Corvisart, though he in another part of his work, confesses, it doesn't <sup>exist</sup> & has been accurately described by peritrophia of the left ventricle of the heart under the title of active aneurism. In reading M. Corvisart's chapter on active aneurisms of the heart, even, or must be struck at once, with the fact, that he means nearly, if not the very same thing by this appellation as Laennec does when he speaks of hypertrophy. Besides the symptoms of this affection so accurately laid down by Corvisart, percussion and auscultation render us others more certain; for, if the heart be greatly enlarged, percussion is not over its whole extent and the



cylinder yields, as a stronger impulse,  
accompanied with a duller sound than  
is common over the seat of disease - in  
a state of health, which is prolonged in its  
diastoles and systoles proportionate to the  
thickening of its parieties. Lancisi first  
called medical attention to a peculiar pulsus  
toward swelling of the external jugular  
veins as a symptom or an audience not the  
hypertrophy of the right ventricle which does  
not exist when the left ventricle alone is af-  
fected. Although von Rokitansky has shown  
of Lancisi to be correct, it is generally ad-  
mitted; and much relied upon by those  
most conversant with affection of the heart.  
I intended next to have treated on the sym-  
ptoms of hypertrophy of the auricles, and  
then, of the vibrations of the different cur-  
vities of the heart, but my limits forbade it.



all I can do on this occasion is to observe, that the symptoms by exophthalmia and simple distillation are so similar as to cause much confusion in the descriptions of authors, and consequently great embarrassment to the young practitioner in his examinations.... But this, however, the same plan of treatment is suitable to both of these distressing maladies.

Varicosis is one of the most obscure diseases with which the physician is acquainted, for in a review which I have taken of Bonn's and Levene's practice, I do not find a single case of varicose excretions, though they do it describe bonvaricosis very accurately; indeed the Father of the above authors confesses, "that, however, he does not consider a varicosis an erode or generalized inflammation of the bowels, & the rectum

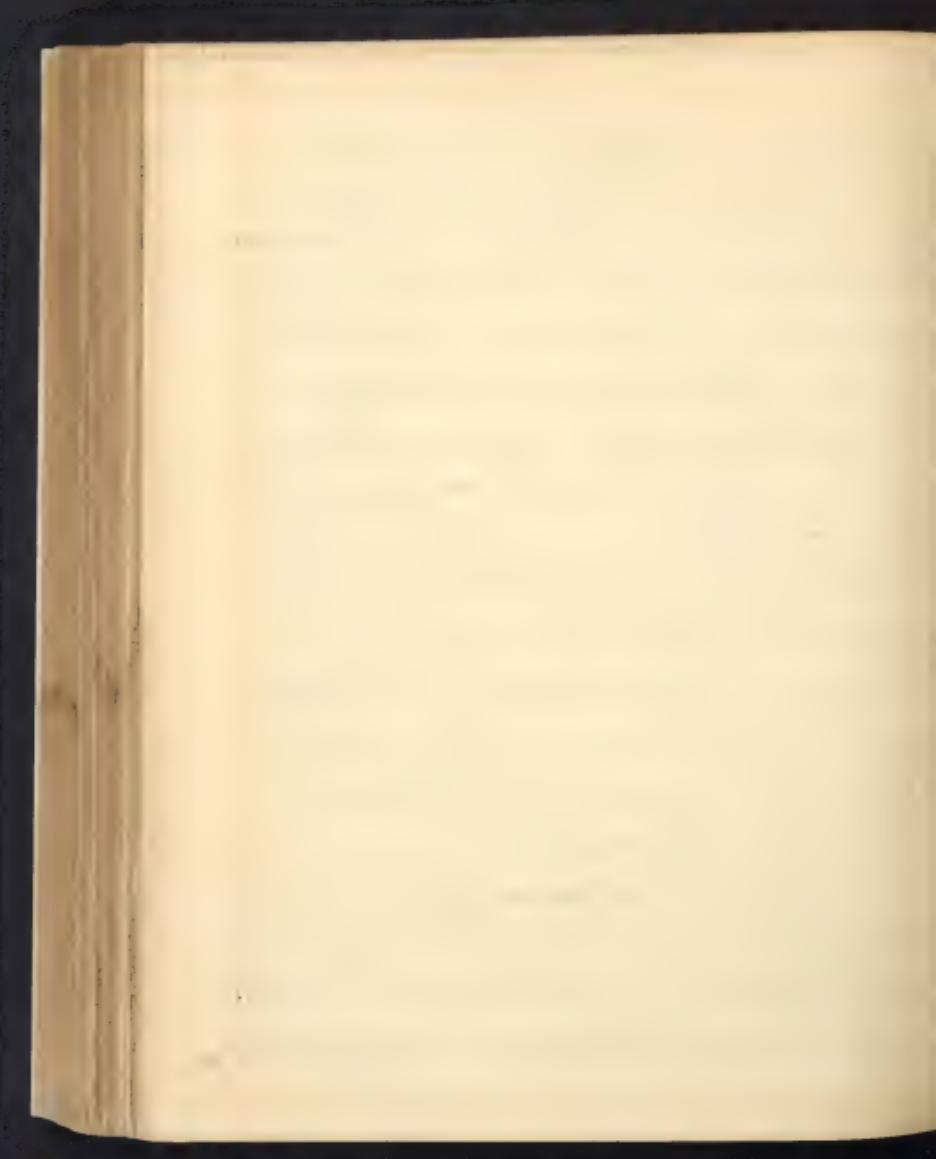
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or chronic?" It was with no inconsiderable degree of surprise to me to see such persons as these confessing their never having experienced a genuine case of carditis, for I have on several occasions had the satisfaction of inspecting hearts, which I then conceived to have been violently affected with inflammation. When assisting Dr. Jackson in making post mortem examinations in the New-House Infirmary, I have seen, not only, the pericardium inflamed but also the lining membrane of the heart. This appearance took place most frequently in those who died of hydrocephalus or hydrocardia, though I witnessed it, <sup>once</sup> in a case of whooping-cough. In all these cases the patients complained of extreme difficulty in inspiration several days previous to death.

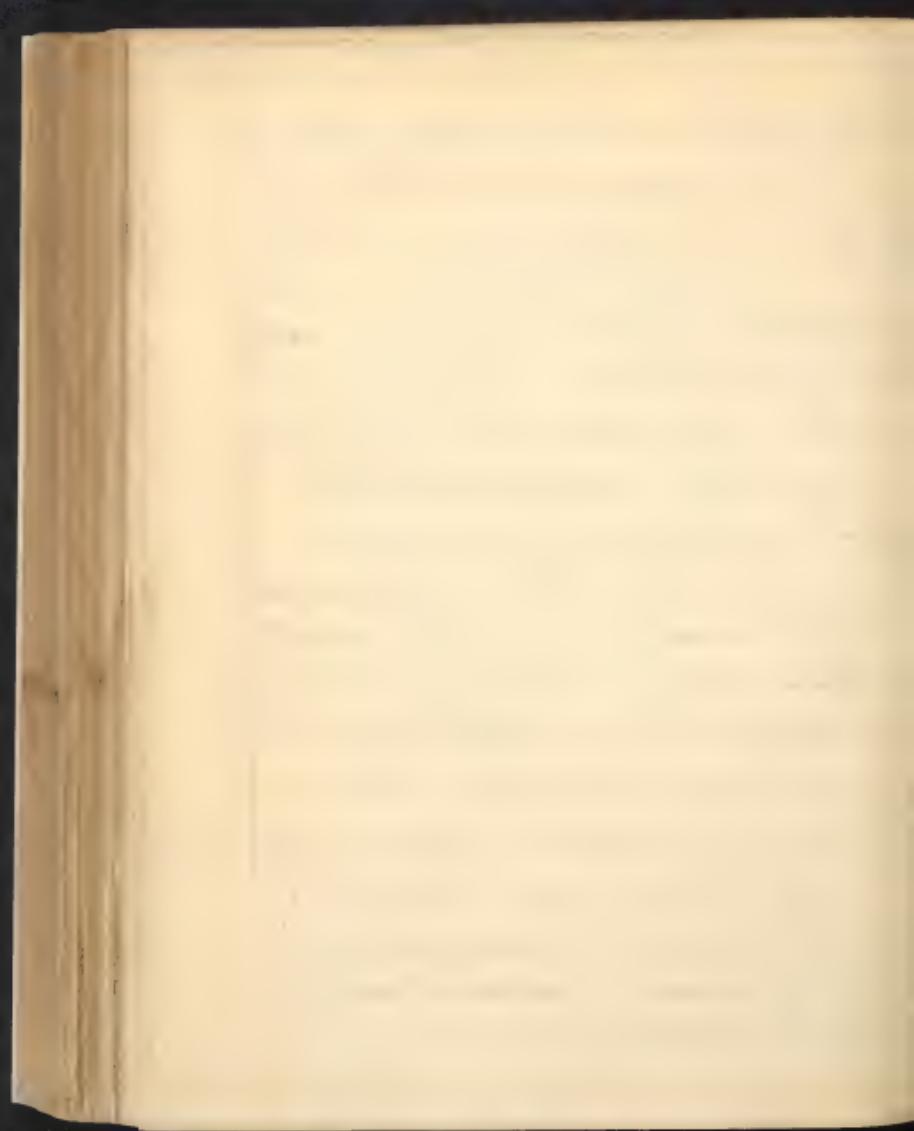


In view of the probability of active inflammation of this organ, Morgagni says ulcers have been found in its substance and Dr. Laennec quotes Blaust Porrochino in the following language: "cordis exterior curo, profunde excta, in lacunis et villos carnos intus cuncte abierat." It is not known whether percussion or auscultation would afford any assistance in the diagnosis of such cases; the above, the presumption is, that they would not. I shall not notice pericarditis here in as much as I believe what I have said above concerning carditis to be strictly applicable to this affection.

" A few observations on ossification and cartilaginous indurations will be as many as I shall make on a subject so ably treated by M. Corvisart, his diagnoses being as plain

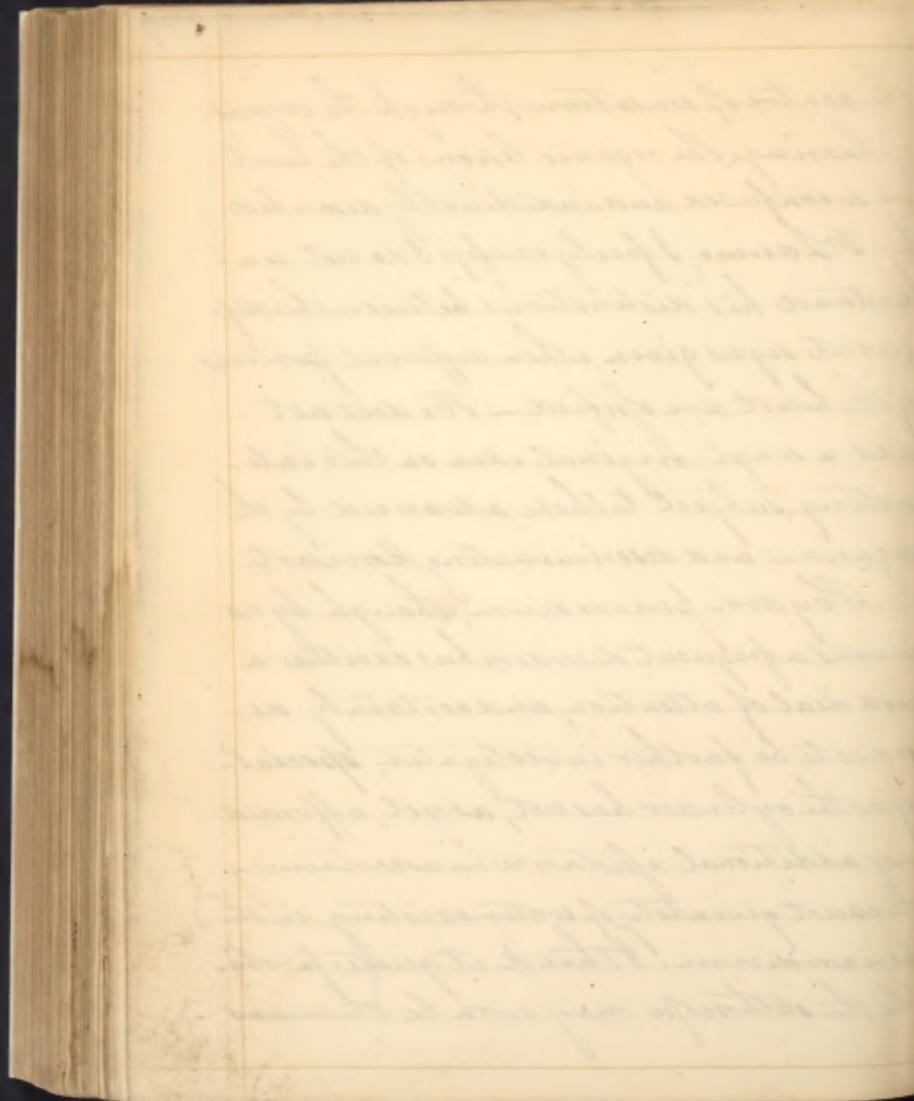


as they possibly could be on diseases, like those  
present under consideration, without the  
aid afforded by medical examination.  
There is a symptom almost always attend-  
ing spification of the mitral valve, noticed  
and very greatly relied on by the distin-  
guished author above cited, which ought  
to be very closely attended to when one  
suspects a disease of any portion of this  
organ — According to him the principal  
sign of this lesion, is, a peculiar rustling  
sensation, perceived on the application  
of the hand to the region of the heart. This  
sensation I cannot, I conceive, very in-  
appropriately compare to the purring of  
a cat when pleased; now I cannot im-  
agine how a sensation conveyed to us  
through the medium of touch can have  
the least resemblance to one conveyed to



the centre of sensation through the organs of hearing. The organic lesions of the heart are so confused and indistinctly described by Dr. Leuenre, I freely confess I do not understand his distinctions between the different signs given, when different portions of the heart are affected — He does not add a single original idea on this interesting subject to those advanced by the sagacious and discriminating Corvisart.

Hydro-pericardium, though by no means a frequent disorder, has excited a good deal of attention, and certainly deserves to be farther investigated, specially as the cylinder has not, as yet, afforded any additional assistance in ascertaining the exact quantity of water existing in the pericardium. I think it quite probable, the stethoscope may soon be the means



of throwing a light around this subject, involved in much obscurity though its eminent discoverer has not derived any assistance from its use in hydro-pericardium.

From what has been advanced on the diseases of the heart, it will readily be perceived, the cylinder fails as a diagnostic means in some of its most interesting diseases; notwithstanding this, every impartial person must acknowledge its utility in some of them, and the possibility of its rendering the most obscure diseases, more intelligible than they have hitherto been.

